

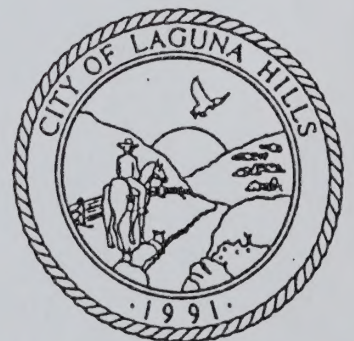
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Laguna Hills, California 92653
(714) 707-2600

Prepared by:
Planning Network and LSA Associates
One Park Plaza, Suite 500
Irvine, California 92714
(714) 553-0666

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Page 10

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City Council

R. Craig Scott, Mayor
Randal J. Bressette, Mayor Pro Tempore
Melody Carruth, Councilmember
Joel Lautenschleger, Councilmember
L. Allan Songstad, Jr., Councilmember

General Plan Advisory Committee

David Beadles
Rich Bohay
Lloyd Castleton
Clyde Childress
Bernard "Bud" Freedman
Joseph Greco
David Gunderman
Bill Kogerman
Robin Lerum
Raghu Mathur
Robert E. Portik
Marty Samuel
Darleen E. Stebenne
Don Stout
Barbara West
Robert Wheeler

City Manager

Bruce Channing

Planning Department

Michael Thiele, Planning Director
John Libiez, General Plan Project Manager

Prepared by

Planning Network and LSA Associates
One Park Plaza, Suite 500
Irvine, California 92714

DRAFT MASTER EIR

TABLE OF CONTENTS

I.	INTRODUCTION	I-1
A.	PURPOSE	I-1
B.	CONTACT PERSONS	I-1
C.	CEQA REQUIREMENTS	I-1
D.	INTENDED USE OF THIS MASTER EIR	I-3
E.	RELATIONSHIP TO FUTURE ENVIRONMENTAL DOCUMENTATION ..	I-4
F.	DOCUMENT FORMAT	I-5
G.	EIR MITIGATION MONITORING	I-7
II.	EXECUTIVE SUMMARY	II-1
III.	PROJECT DESCRIPTION	III-1
A.	LOCATION	III-1
B.	GENERAL PLAN BACKGROUND	III-4
C.	GENERAL PLAN GOALS	III-5
	Land Use	III-5
	Housing	III-5
	Growth Management	III-5
	Fiscal Management	III-6
	Circulation and Transportation	III-6
	Infrastructure	III-6
	Open Space	III-6
	Air Quality	III-6
	Noise	III-6
D.	GENERAL PLAN LAND USES	III-7
	Existing Land Use	III-7
	Proposed Land Use Plan	III-7
E.	BUILD OUT OF THE GENERAL PLAN STUDY AREA	III-9
F.	GENERAL PLAN LAND USE DESIGNATIONS	III-9
IV.	ENVIRONMENTAL ANALYSIS	IV-A-1
A.	POPULATION	IV-A-1
	Existing Setting	IV-A-1
	Project Impacts	IV-A-5
	Mitigation Measures	IV-A-6
B.	HOUSING	IV-B-1
	Existing Setting	IV-B-1
	Housing Needs	IV-B-7
	Household Characteristics	IV-B-8
	Housing Constraints	IV-B-14
	Project Impacts	IV-B-26
	Mitigation Measures	IV-B-27
C.	LAND USE	IV-C-1
	Existing Setting	IV-C-1
	Existing Land Use Policy and Regulations	IV-C-4
	Project Impacts	IV-C-16
	Mitigation Measures	IV-C-16

DRAFT MASTER EIR

TABLE OF CONTENTS

IV. ENVIRONMENTAL ANALYSIS (CONT'D)

D.	COMMUNITY DESIGN	IV-D-1
	Existing Setting	IV-D-1
	Project Impacts	IV-D-10
	Mitigation Measures	IV-D-10
E.	GROWTH MANAGEMENT	IV-E-1
	Existing Setting	IV-E-1
	Project Impacts	IV-E-1
	Mitigation Measures	IV-E-1
F.	CIRCULATION AND TRANSPORTATION	IV-F-1
	Existing Setting	IV-F-1
	Project Impacts	IV-F-13
	Mitigation Measures	IV-F-14
	Mitigation Monitoring	IV-F-14
G.	INFRASTRUCTURE	IV-G-1
	Existing Setting	IV-G-1
	Project Impacts	IV-G-7
	Mitigation Measures	IV-G-7
	Mitigation Monitoring	IV-G-8
H.	EDUCATIONAL FACILITIES	IV-H-1
	Existing Setting	IV-H-1
	Project Impacts	IV-H-7
	Mitigation Measures	IV-H-7
	Mitigation Monitoring	IV-H-8
I.	PARKS AND RECREATION	IV-I-1
	Existing Setting	IV-I-1
	Project Impacts	IV-I-6
	Mitigation Measures	IV-I-6
	Mitigation Monitoring	IV-I-6
J.	FIRE PREVENTION AND SUPPRESSION	IV-J-1
	Existing Setting	IV-J-1
	Project Impacts	IV-J-6
	Mitigation Measures	IV-J-6
K.	POLICE SERVICES AND CRIME PREVENTION	IV-K-1
	Existing Setting	IV-K-1
	Project Impacts	IV-K-8
	Mitigation Measures	IV-K-8
	Mitigation Monitoring	IV-K-9
L.	EMERGENCY SERVICES AND FACILITIES	IV-L-1
	Existing Setting	IV-L-1
	Project Impacts	IV-L-2
	Mitigation Measures	IV-L-2
	Mitigation Monitoring	IV-L-3
M.	GENERAL CITY SERVICES AND FACILITIES	IV-M-1
	Existing Setting	IV-M-1
	Project Impacts	IV-M-2
	Mitigation Measures	IV-M-2
	Mitigation Monitoring	IV-M-2

TABLE OF CONTENTS

IV.	ENVIRONMENTAL ANALYSIS (CONT'D)	
N.	OPEN SPACE	IV-N-1
	Existing Setting	IV-N-1
	Project Impacts	IV-N-2
	Mitigation Measures	IV-N-4
O.	AIR QUALITY	IV-O-1
	Existing Setting	IV-O-1
	Project Impacts	IV-O-11
	Mitigation Measures	IV-O-13
	Mitigation Monitoring	IV-O-17
P.	BIOLOGICAL RESOURCES	IV-P-1
	Existing Setting	IV-P-1
	Project Impacts	IV-P-21
	Mitigation Measures	IV-P-21
	Mitigation Monitoring	IV-P-21
Q.	ENERGY RESOURCES	IV-Q-1
	Existing Setting	IV-Q-1
	Project Impacts	IV-Q-4
	Mitigation Measures	IV-Q-4
	Mitigation Monitoring	IV-Q-4
R.	WATER RESOURCES	IV-R-1
	Existing Setting	IV-R-1
	Project Impacts	IV-R-7
	Mitigation Measures	IV-R-7
	Mitigation Monitoring	IV-R-7
S.	MINERAL RESOURCES	IV-S-1
	Existing Setting	IV-S-1
	Project Impacts	IV-S-3
	Mitigation Measures	IV-S-3
T.	HISTORIC RESOURCES	IV-T-1
	Existing Setting	IV-T-1
	Project Impacts	IV-T-8
	Mitigation Measures	IV-T-8
	Mitigation Monitoring	IV-T-9
U.	GEOLOGY AND SEISMICITY	IV-U-1
	Existing Setting	IV-U-1
	Project Impacts	IV-U-14
	Mitigation Measures	IV-U-14
V.	STORMWATER MANAGEMENT AND FLOODING	IV-V-1
	Existing Setting	IV-V-1
	Project Impacts	IV-V-3
	Mitigation Measures	IV-V-3
	Mitigation Monitoring	IV-V-3
W.	NOISE	IV-W-1
	Existing Setting	IV-W-1
	Project Impacts	IV-W-11
	Mitigation Measures	IV-W-12

TABLE OF CONTENTS (CONT'D)

IV.	ENVIRONMENTAL ANALYSIS (CONT'D)	
X.	HAZARDOUS MATERIALS	IV-X-1
	Existing Setting	IV-X-1
	Project Impacts	IV-X-5
	Mitigation Measures	IV-X-5
	Mitigation Monitoring	IV-X-5
Y.	AIRPORT HAZARDS MANAGEMENT	IV-Y-1
	Existing Setting	IV-Y-1
	Project Impacts	IV-Y-3
	Mitigation Measures	IV-Y-3
V.	ALTERNATIVES TO THE PROPOSED PROJECT	V-1
A.	INTRODUCTION	V-1
	No Project Alternative	V-1
B.	ALTERNATIVE 1: SUBURBAN "SMALL TOWN" COMMUNITY	V-2
C.	ALTERNATIVE 2: URBAN COMMUNITY	V-2
D.	ALTERNATIVE 3: ECONOMIC ENHANCEMENT COMMUNITY	V-3
E.	ALTERNATIVES EVALUATION	V-4
	Alternative 1	V-4
	Alternative 2	V-7
	Alternative 3	V-8
VI.	CUMULATIVE IMPACTS	VI-1
A.	CUMULATIVE IMPACT AREA	VI-1
B.	CUMULATIVE IMPACTS ANALYSIS	VI-2
VII.	GROWTH INDUCING IMPACTS	VII-1
VIII.	SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS	VIII-1
IX.	RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY	IX-1
A.	WATER	IX-1
B.	BUILDING MATERIALS	IX-2
C.	FOSSIL FUELS	IX-2
X.	SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES	X-1
XI.	REFERENCES AND DOCUMENTS USED IN PREPARATION OF THE EIR	XI-1
A.	DOCUMENTS USED	XI-1
B.	PERSONS, ORGANIZATIONS, AND AGENCIES CONSULTED	XI-2
XII.	RESPONSE TO COMMENTS	XII-1
XIII.	MITIGATION MONITORING PROGRAM	XIII-1

TABLE OF CONTENTS (CONT'D)

APPENDICES

- A. TRAFFIC ANALYSIS**
- B. AIR QUALITY ANALYSIS**
- C. NOISE ANALYSIS**
- D. NOTICE OF PREPARATION**
- E. NOP RESPONSES**
- F. COMMUNITY DESIGN PHOTO ESSAY**
- G. OPEN SPACE LANDS INVENTORY**

LIST OF FIGURES

Figure III-1	Location	III-2
Figure III-2	Study Area	III-3
Figure IV-B-1	Inventory of Available Residential Land by Zoning Designations	IV-B-25
Figure IV-C-1	General Plan Study Area	IV-C-2
Figure IV-C-2	Orange County General Plan Land Use Designations	IV-C-8
Figure IV-C-3	City of Laguna Hills Zoning Designations	IV-C-11
Figure IV-D-1	Community Design Areas	IV-D-1
Figure IV-D-2	Community Design Map	IV-D-2
Figure IV-D-3	Orange County Viewscape Standards	IV-D-4
Figure IV-D-4	Orange County Landscape Standards	IV-D-4
Figure IV-D-5	Existing and Potential Scenic Corridors	IV-D-6
Figure IV-D-6	Study Area Views and Vistas	IV-D-9
Figure IV-F-1	Existing Circulation and Daily Traffic Volumes	IV-F-2
Figure IV-F-2	Existing Bikeways	IV-F-5
Figure IV-F-3	Intersection Location	IV-F-11
Figure IV-G-1	Water District Boundaries	IV-G-2
Figure IV-H-1	Educational Facilities	IV-H-2
Figure IV-I-1	Existing Park and Recreation Facilities	IV-I-5
Figure IV-K-1	Police Activity By Location	IV-K-4
Figure IV-M-1	Organizational Chart	IV-M-3
Figure IV-N-1	Open Space Areas Maintained by Laguna Hills	IV-N-3
Figure IV-O-1	South Coast AQMD Monitoring Stations	IV-O-2
Figure IV-O-2	Air Receptor Locations	IV-O-14
Figure IV-P-1	Biotic Resources	IV-P-3
Figure IV-Q-1	Electric Company Service Areas	IV-Q-2
Figure IV-R-1	Hydrologic	IV-R-3
Figure IV-R-2	Potential Flood Hazard Areas	IV-R-4
Figure IV-S-1	Mineral Resource Zones	IV-S-2
Figure IV-U-1	Geologic Formations	IV-U-3
Figure IV-U-2	Soil Types	IV-U-11
Figure IV-U-3	Regional Seismicity	IV-U-13
Figure IV-V-1	Hydrologic Resources	IV-V-2
Figure IV-W-1	Land Use Compatibility for Community Noise Environments	IV-W-3
Figure IV-W-2	Noise Measurement Locations	IV-W-8
Figure IV-X-1	Regional Nuclear Hazards	IV-X-6
Figure IV-Y-1	Aicuz Accident Potential Zones	IV-Y-2

LIST OF TABLES

Table I-1	Laguna Hills General Plan and Environmental Issues	I-2
Table III-1	Land Use Acreage Distribution Summary	III-8
Table IV-A-1	Laguna Hills General Plan Study Area - Population	IV-A-1
Table IV-A-2	Racial and Ethnic Composition (1990)	IV-A-2
Table IV-A-3	Household Income (1990)	IV-A-3
Table IV-A-4	Age of Population (1990)	IV-A-4
Table IV-A-5	Occupations for Residents in the City of Laguna Hills	IV-A-5
Table IV-B-1	Housing Unit Mix	IV-B-1
Table IV-B-2	Housing Tenure	IV-B-4
Table IV-B-3	Housing Value	IV-B-5
Table IV-B-4	Contract Monthly Rent for Renter-Occupied Housing Units	IV-B-6
Table IV-B-5	Rental Units November 1992-January 1993	IV-B-6
Table IV-B-6	Assisted Housing at Risk of Conversion	IV-B-7
Table IV-B-7	Summary of Special Needs Groups within the General Plan Study Area	IV-B-9
Table IV-B-8	Facilities in Orange County Serving the Homeless	IV-B-13
Table IV-B-9	City of Laguna Hills General Plan Land Use 1993 (City and Sphere of Influence)	IV-B-17
Table IV-B-10	City of Laguna Hills Discretionary Permits 1993	IV-B-18
Table IV-B-11	Comparison of Development Fee Schedules	IV-B-20
Table IV-B-12	Inventory of Available Residential Land - City of Laguna Hills 1993	IV-B-24
Table IV-B-13	Urban Village Maximum Residential Development Intensity	IV-B-26
Table IV-C-1	Existing Land Use	IV-C-3
Table IV-C-2	Orange County General Plan Land Use Designations Used within the General Plan Study Area	IV-C-5
Table IV-C-3	County of Orange Zoning Designations - Laguna Hills	IV-C-9
Table IV-F-1	Existing 1992 Condition Intersection Level of Service Analysis	IV-F-10
Table IV-F-2	Bus Routes through the City of Laguna Hills	IV-F-12
Table IV-F-3	General Plan (build out) Intersection Level of Service Analysis	IV-F-13
Table IV-G-1	ETWD Consumption Factors	IV-G-3
Table IV-H-1	Elementary School Enrollment/Capacity	IV-H-3
Table IV-H-2	Secondary School Enrollment/Capacity	IV-H-3
Table IV-H-3	School Site Characteristics	IV-H-4
Table IV-H-4	Residential Student Generation Factors	IV-H-5
Table IV-H-5	Non-Residential Student Generation Factors	IV-H-5
Table IV-I-1	Existing Park and Recreation Facilities - City	IV-I-2
Table IV-I-2	Existing Park and Recreation Facilities - Irrevocable Offers of Dedication	IV-I-2
Table IV-I-3	Existing Park and Recreation Facilities - School Sites	IV-I-2
Table IV-I-4	Existing Park and Recreation Facilities - Private	IV-I-3
Table IV-I-5	Existing Park and Recreation Facilities - Potential Annexation Area Parks	IV-I-3
Table IV-I-6	Existing Park and Recreation Facilities - Potential Annexation Area Schools	IV-I-3
Table IV-I-7	Existing Park and Recreation Facilities - Potential Annexation Area - Private	IV-I-4
Table IV-J-1	County Fire Department Responses in Laguna Hills and Surrounding Cities Year-to-Date as of October 31, 1992	IV-J-5
Table IV-K-1	Criminal Offenses 1987 through October, 1992	IV-K-5
Table IV-K-2	Traffic Data 1991 - 1992	IV-K-6
Table IV-K-3	Intersection Activity	IV-K-6

LIST OF TABLES

Table IV-K-4	Patrol Activity 1992	IV-K-8
Table IV-K-5	Defensible Space Mitigation Standards	IV-K-10
Table IV-L-1	Area Hospital Services	IV-L-1
Table IV-M-1	City of Laguna Hills Public Service Providers	IV-M-1
Table IV-O-1	Health Effects Summary of the Major Criteria Air Pollutants	IV-O-5
Table IV-O-2	1991 AQMP Local Government Control Measures	IV-O-5
Table IV-O-3	GMP Projections for Southeast Orange Subregion	IV-O-7
Table IV-O-4	Air Pollutant Data Summary at El Toro Monitoring Station 1989-1991	IV-O-10
Table IV-O-5	Estimated Pollutant Emissions for Study Area (lbs/day)	IV-O-12
Table IV-O-6	Worst Case CO Concentrations (In Parts per Million) at Selected Sensitive Receptor Locations	IV-O-15
Table IV-O-7	City of Laguna Hills Post 2010 Preferred General Plan Daily Traffic Volume Composition	IV-O-16
Table IV-P-1	Plant Communities Identified Within General Plan Study Area	IV-P-1
Table IV-P-2	Sensitive Species Potentially Occurring Within the General Plan Study Area	IV-P-9
Table IV-P-3	Species with Potential for Occurrence	IV-P-14
Table IV-Q-1	SCAQMD Electrical Consumption Factors	IV-Q-3
Table IV-Q-2	Natural Gas Consumption Factors	IV-Q-4
Table IV-T-1	Paleontologic Sensitivity Classifications	IV-T-5
Table IV-T-2	Paleontologic Sensitivity within Study Area	IV-T-6
Table IV-U-1	Soil Capability	IV-U-10
Table IV-U-2	Significant, Unacceptable Safety Risks	IV-U-15
Table IV-W-1	Field Measurement Data Summary	IV-W-5
Table IV-W-2	Existing Modelled Exterior Noise Exposures Adjacent to Nearby Roadways	IV-W-6
Table IV-W-3	Railroad Operational Data (1991 Operations)	IV-W-10
Table IV-W-4	Railroad Noise Contours	IV-W-10
Table IV-W-5	Interior/Exterior Noise Standards	IV-W-12
Table IV-W-6	General Plan Exterior Noise Exposures Adjacent to Nearby Roadways	IV-W-13
Table IV-X-1	Businesses that Use, Store, Transport, and Dispose of Hazardous Waste	IV-X-3
Table V-1	Summary of Environmental Impacts of the Alternatives	V-5
Table VI-1	Laguna Hills Cumulative Impact Area Growth Forecast	VI-2
Table VI-2	Cumulative Impact Area Comparison Impact Calculations Year 2010 Laguna Hills	VI-2
Table VI-3	Significance of Cumulative Impacts	VI-4

I. INTRODUCTION

DRAFT MASTER EIR

I. INTRODUCTION

A. PURPOSE

This Master Environmental Impact Report (EIR) is required by the California Environmental Quality Act (CEQA) to address the impacts resulting from implementation of the proposed General Plan for the City of Laguna Hills, hereafter referred to as the "proposed project." Laguna Hills' General Plan contains five chapters, which cover the mandatory seven elements required by State law:

- Community Development and Design (Land Use, Housing);
- Fiscal Management;
- Municipal Facilities and Services (Circulation);
- Environmental Resources (Open Space, Conservation); and
- Environmental Hazards (Noise, Safety).

The environmental impacts of ultimate development within the Laguna Hills General Plan study area are evaluated in this document. A matrix showing the relationship of the environmental analysis sections of this Master EIR to the elements of the General Plan is provided in Table I-1.

B. CONTACT PERSONS

Questions regarding the preparation of this report, its assumptions, or its conclusions, should be referred to the following persons:

City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, CA 92653
Attention: Mike Thiele, Planning Director
(714) 707-2600

Planning Network and LSA Associates
(General Plan/EIR Consultants)
Mr. David A. Hudson
One Park Plaza, Suite 500
Irvine, California 92714
(714) 553-0666

The project sponsor, or Lead Agency, is the City of Laguna Hills, California.

C. CEQA REQUIREMENTS

The City of Laguna Hills General Plan (General Plan) represents a significant discretionary action for the City of Laguna Hills. Because the City must take a discretionary action to approve or deny the General Plan, State law, specifically CEQA, requires that the action be reviewed to determine the effects that would result if the General Plan is approved and implemented.

CITY OF LAGUNA HILLS

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Table I-1
Laguna Hills General Plan and Environmental Issues

EIR ISSUES	Community Development and Design	Fiscal Management	Municipal Facilities and Services	Environmental Resources	Environmental Hazards
Population	•				
Housing	•				
Land Use	•				
Community Design/Aesthetics	•				
Growth Management	•				
Circulation/Transportation			•		
Infrastructure			•		
Educational Facilities			•		
Parks and Recreation			•		
Fire Prevention and Suppression			•		
Police Services and Crime Prevention			•		
Emergency Services and Facilities			•		
General City Services and Facilities			•		
Open Space				•	
Air Quality				•	
Biological Resources				•	
Energy Resources				•	
Water Resources				•	
Mineral Resources				•	
Historic Resources				•	
Geology and Seismicity					•
Stormwater Management and Flooding					•
Noise					•
Hazardous Materials					•
Airport Hazards Management					•

Source: Planning Network, 1993.

March 31, 1994

DRAFT MASTER EIR

Pursuant to CEQA requirements, an Initial Study and environmental checklist were prepared for the proposed project. The Initial Study concluded that the proposed General Plan might have a significant effect on the environment. A Notice of Preparation (NOP) was issued by the City according to the requirements of the California Administrative Code, Title 14, Sections 15082(a), 15103, and 15375. The NOP indicated that an EIR was required and would be prepared, and invited comments on the proposed project from public agencies and the public at large. Comments that were received during the NOP period were addressed and incorporated into the Master EIR. A copy of the environmental checklist, Notice of Preparation, and NOP comment letters is included in Section XII of this document.

The purpose of this Master EIR is to inform the public and the decision makers who must act upon the proposed General Plan of the kinds and extent of the environmental impacts that will result if the proposed General Plan is implemented. This document also contains a discussion of potential mitigation measures that may be implemented to reduce the effects of the proposed project. The scope of issues discussed in this Master EIR consists of those issues analyzed in the General Plan.

The Laguna Hills General Plan Master EIR was prepared in accordance with the most recent CEQA guidelines as established by the State Office of Planning and Research (OPR). The guidelines require that an EIR examine the existing setting of the area, the environmental impacts related to future development pursuant to the General Plan, and measures to mitigate potential impacts. These mitigation measures are consistent with the goals, strategies, and implementation programs established by the General Plan.

Section 15166 of CEQA provides for the preparation of the combined General Plan/EIR. Section 15166, EIR as part of a General Plan, provides that,

"The requirements for preparing an EIR on a local general plan, element, or amendment thereof will be satisfied by using the General Plan, or element document, as the EIR and no separate EIR will be required, if:

- *The General Plan addresses all the points required to be in an EIR by Article 9 of these Guidelines, and*
- *The document contains a special section or a cover sheet identifying where the General Plan document addresses each of the points required."*

Therefore, pursuant to Section 15166, this Master EIR has been prepared as an integral part of the General Plan process.

D. INTENDED USE OF THIS MASTER ENVIRONMENTAL IMPACT REPORT

The primary use of this Master EIR is to inform decision makers and the public of the effects of implementing the City of Laguna Hills General Plan. This information and analysis is important, since an informed decision requires a knowledge of the ramifications of that decision.

This Master EIR is also intended to be used as a macro-scale documentation of the impacts of implementing the proposed General Plan. It is intended that this Master EIR be used to measure the effects of development projects and future discretionary actions necessary to implement the proposed General Plan.

Therefore, this Master EIR will be used for the following actions:

- Approval of the City of Laguna Hills General Plan.
- Adoption of a Comprehensive Development code consistent with the General Plan.
- Review of future discretionary projects and actions in relation to macro, citywide scale impacts.

E. RELATIONSHIP TO FUTURE ENVIRONMENTAL DOCUMENTATION

CEQA recognizes that some proposed projects are specific (and that their impacts can be specifically addressed) and that some projects will require future actions to implement their provisions. The City of Laguna Hills General Plan falls into the latter category.

The General Plan represents what its name suggests: it is a "general" plan and will require a large number of specific projects to be fully implemented. Therefore, this Master EIR addresses the large-scale, "macro" effects that would result if the City of Laguna Hills is developed pursuant to the goals, strategies, and implementation programs contained in the General Plan. Therefore, this Master EIR does not directly examine environmental effects that will result from specific projects located on specific sites within the City.

As defined in Section 15168 of the CEQA Guidelines, program EIRs are intended to address macro-scale environmental impacts. One of the major advantages of a program EIR is that it allows the Lead Agency to examine the cumulative effects of a large-scale project such as the proposed City of Laguna Hills General Plan. Section 15168 states:

"...Use of a program EIR can...(1) provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action, (2) ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis, (3) allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the Agency has greater flexibility to deal with basic problems or cumulative impacts."

Recognizing that a program EIR can adequately address macro-scale impacts, CEQA provides for its use in the environmental review of specific projects. In this way, this Master EIR would be consulted to determine whether a specific project is:

- Consistent with the General Plan and, therefore, within the general limits of the projected land uses examined in this EIR; and
- Likely to create site specific impacts that are by their nature too "micro" in scale to be examined in this Master EIR. Such impacts could, for example, include traffic impacts related to a specific intersection, or modification of a specific landform feature, for instance.

CITY OF LAGUNA HILLS

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CEQA defines how a program EIR relates to the preparation of EIRs on individual projects in Section 15168 of the CEQA Guidelines, under the heading of "Use with Later Activities." Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared according to the following criteria.

- If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
- If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental documentation would be required.
- An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
- Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR."

In summary, this Master EIR on the City of Laguna Hills General Plan provides a macro scale view of the large-scale, cumulative impacts of implementing the proposed General Plan. This Master EIR, by its nature, is not capable of examining the site specific impacts of a given project; for this reason, review of future projects and, potentially, future EIRs on specific projects, will be based upon an independent determination by City staff consistent with the most current CEQA requirements. However, it also recognized that this Master EIR *can* serve as the basis for future EIRs and, therefore, all future EIRs need not repeat all of the analysis presented in this document.

F. DOCUMENT FORMAT

As discussed above, this Master EIR is intended to function as an integral part of the City of Laguna Hills General Plan. Therefore, this Master EIR does not attempt to duplicate all of the discussions contained in the General Plan document, but rather refers the reader to those sections of the General Plan that contain the required information for a given section. Where additional discussion not contained in the General Plan document is included in the Master EIR, this document contains the appropriate text and supporting information.

Therefore, this Master EIR is organized as follows:

- *Section I* of the Master EIR contains a brief description of the Laguna Hills General Plan/Master EIR program.
- *Section II* of the Master EIR contains the Executive Summary of the Master EIR document.

DRAFT MASTER EIR

- *Section III* of the Master EIR contains the project description including: location, General Plan Background, General Plan Goals, General Plan Land Uses, Build Out of General Plan Study Area, and General Plan Land Use Designations.
- *Section IV* of the Master EIR contains the environmental analysis of the proposed project. This section is organized by the following topics:
 - *Existing Setting* - The existing setting information for the General Plan, which contains a detailed discussion of the conditions (both environmental and man-made) in existence at the time the General Plan was prepared. Existing setting information provides the reader with the "base line" from which future impacts will start, and provides a standard against which to measure these impacts.
 - *Project Impacts* - The Project Impacts Section provides an analysis of the impacts of General Plan implementation. This discussion, as noted above, focuses on the macro scale impacts of implementing the General Plan. Impact analysis discussion contained in the General Plan portion of the document is referenced where appropriate. Where appropriate, additional project impact analysis has been provided and included in the Master EIR. Site specific impacts for individual locations within the City are *not* provided.
 - *Mitigation Measures* - The Mitigation Measures Section provides identification of proposed mitigation measures.
- *Section V* contains a discussion of several alternative General Plan scenarios that were examined during the course of the Plan's preparation. The impacts of these alternatives are also discussed.
- *Sections VI through X* of the Master EIR contain a discussion of various topical areas required by CEQA, including cumulative impacts, growth inducing impacts, significant unavoidable environmental effects, and significant irreversible environmental changes, as well as a discussion of cumulative impacts to the Southern California region that could result from implementation of the proposed General Plan.
- *Section XI* of the Master EIR contains a listing of documents and references used in the preparation of this document.
- *Section XII* of the Master EIR contains a compilation of EIR comments received during the public review period for the Draft Master EIR, as well as the responses of the Lead Agency to those comments.

DRAFT MASTER EIR

- *Section XIII* of the Master EIR contains a Mitigation Monitoring Program that includes a listing of the EIR's mitigation measures, as well as a description of the mitigation monitoring that will take place. Also listed in this matrix are the parties responsible for implementation and monitoring of each measure, as well as the timeframes in which monitoring will take place.
- *Appendices A through H* of the Master EIR contain technical appendices prepared for traffic, air and noise, along with the following information:
 - The Notice of Preparation for the EIR, and subsequent NOP responses;
 - The Community Design Photo Essay; and
 - The Open Space Lands Inventory.

G. EIR MITIGATION MONITORING

In compliance with Public Resource Code Section 21081.6 (enacted by the passage of AB 3180), public agencies approving projects that may cause significant environmental impacts must monitor the measures outlined in the Master EIR to mitigate those impacts. A Mitigation Monitoring Program will be approved by the City Council along with the General Plan.

II. EXECUTIVE SUMMARY

II. EXECUTIVE SUMMARY

This Master EIR has determined that most of the environmental impacts that are associated with the General Plan implementation can be mitigated to below a level of significance. The strategies contained in the General Plan have been designed to be environmentally sensitive, and serve to mitigate or reduce impacts that might otherwise be significant to the environment.

Only three environmental issue areas have been determined as significant due to General Plan implementation, despite the application of identified mitigation measures. These areas are traffic/circulation, air quality and noise. For traffic/circulation, several roadways and intersections are forecast to exceed service levels that are considered acceptable, and there are no means to reduce the effects and continue to maintain the Level of Service objectives in the City. For air quality, State air quality standards are not expected to be met in the air basin within the timeframe established by the Air Resources Board. Even with the implementation of policies and the application of performance standards on new development, the standards will continue to be exceeded because of the significant burden generated by General Plan growth (e.g., exceeds AQMD emission thresholds), as well as the cumulative influence due to basinwide emission sources. Lastly, the majority of noise increases within the City are a result of traffic volume increases due to population growth in surrounding areas versus population growth directly attributable to the City. The increase in traffic expected at build out of the General Plan study area will still result in cumulative noise impacts within the study area.

It should be noted that General Plan adoption will not directly result in impacts but will facilitate the implementation of land use decisions. As a result, General Plan impacts occur at a plan level, with the actual effects deferred until specific projects that implement the General Plan are constructed.

The following table provides a summary of the Laguna Hills General Plan Master EIR, including Existing Setting, Project Impacts and Mitigation Measures. Also included in the Executive Summary is a determination regarding the level of significance of impacts after mitigation, for each topical section analyzed in the Master EIR.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Community Development and Design		
Population - According to the most recent census data for the study area, Laguna Hills contains a population of 27,888.	At build out, the General Plan study area is estimated to contain 29,111 residents or an increase of 1,223 residents (approx. .04 percent)	Mitigation for impacts associated with the increase of population within the General Plan study area are related to Circulation/Transportation, Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, Hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.
Housing - According to the most recent census data for the study area, Laguna Hills contains 10,241 dwelling units.	At build out, the General Plan study area is estimated to have 10,745 dwelling units or an increase of 504 dwelling units (approx. .049 percent).	Mitigation for impacts associated with the increase in the number of dwelling units within the General Plan study area are related to Circulation/Transportation, Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, Hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.
Land Use - The current distribution of land uses in the City includes residential (66.82 percent), commercial (11.0 percent), industrial/business park (3.8 percent), public facilities (4.9 percent), commercial recreation (.28 percent), and open space (13.2 percent).	At build out of the General Plan study area, the distribution of land uses is proposed to be, residential (64 percent), commercial (8.6 percent), office (.5 percent), mixed use (7.3 percent), public facilities (4.8 percent), and recreational/open space (14.8 percent).	Mitigation for impacts associated with land use changes within the General Plan study area are related to Circulation/Transportation, Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.
Community Design - Upon incorporation, the City of Laguna Hills assumed a majority of design programs that were in place under County jurisdiction.	At build out of the General Plan study area, implementation of design related components of the General Plan are anticipated to have a beneficial impact on the study area.	Implementation of the Laguna Hills General Plan is expected to produce beneficial aesthetic impacts. Therefore, no mitigation is necessary.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Growth Management - Currently, the City does not have a formal growth management program. The City, in order to receive Measure M funds, must comply with the Countywide Growth Management Program including the adoption of a General Plan Growth Management Element.	The General Plan includes a five-point growth management program, including development monitoring, identifying necessary circulation improvements, fair-share funding mechanisms, timing of transportation improvements, and annual evaluations.	Mitigation for impacts associated with the adoption of a growth management strategy are related to Circulation/Transportation, and Infrastructure, and are included in those sections of the Master EIR.
Municipal Facilities and Services		
Circulation/Transportation - Currently 229,602 average daily trips and 1,960,801 vehicle miles travelled occur in the study area. A substantial number of vehicular trips passing through the City have origins or destinations outside the City.	At build out of the General Plan study area, approximately 274,042 average daily trips and 2,340,318 daily vehicle miles travelled are expected, with the resultant decreases in the levels of service at several intersections.	(F.1) All roadways within the City of Laguna Hills shall be constructed to their master planned cross sections as shown on the Laguna Hills General Plan Circulation Map in conjunction with adjacent development. If determined by the City Engineer to be necessary to provide for adequate traffic flow, any individual development may be required to provide off-site improvements, subject to appropriate reimbursement agreements from future development or other financial mechanisms to ensure that new development pays only its proportionate share for improvements. (F.2.) The intersection improvements shown on Table IV-F-3 of the Master EIR shall be constructed in conjunction with adjacent development. If determined by the City Engineer to be necessary to provide for adequate traffic flow, any individual development may be required to provide off-site intersection improvements, subject to appropriate reimbursement agreements from future development or other financial mechanisms to ensure that new development pays only its proportionate share for improvements.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Circulation and Transportation (Cont'd)		(F.3) The City of Laguna Hills shall maintain or improve the mobility within the City to achieve a standard level of service of "D" or better at all intersections during the a.m. and p.m. peak hours for signalized intersections under the jurisdiction of the City of Laguna Hills. (F.4) Bicycle, walking, and public equestrian lanes, paths, and trails as depicted in the Laguna Hills General Plan Circulation Map and Master Plan of Parks and Recreation shall be provided concurrent with adjacent road and park construction. (F.5) If requested by the Orange County Transit Authority, transit amenities, such as, but not limited to, bus turnouts and bus shelters, shall be provided concurrent with adjacent roadway construction. (F.6) The City of Laguna Hills shall implement the adopted Transportation Demand Management Ordinance (Ordinance Number 91-1). <i>Level of Impact after Mitigation: Cumulatively Significant.</i>
Infrastructure- Currently, the study area consumes approximately 5.1 million gallons of domestic water per day, 650,000 kilowatts of electricity, and 2.5 million cubic feet of natural gas, and generates 4.3 million gallons of wastewater per day. These various facilities are in good operating order and essentially built out to serve the study area.	At build out the General Plan study area will demand approximately 5.3 million gallons of domestic water per day, 672,557 kilowatts of electricity, and 2.6 million cubic feet of natural gas, and generates 5.0 million gallons of wastewater per day. No major system expansion is required to serve the study area as a result of the proposed General Plan.	(G.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of infrastructure services provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or offsite capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>

March 31, 1994

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Educational Facilities - The study area is served primarily by the Saddleback Unified School District, which currently has a capacity of approximately 10,723 students with an enrollment of 9,635 students in 1992-93.	Build out of the General Plan study area may result in the generation of approximately an additional 217 students. There is adequate capacity to house these additional students.	(H.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of educational facilities provided to existing development. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>
Parks and Recreation - At the present time the study area contains approximately 77.96 acres of parks and recreational uses.	The population of the General Plan study area at build out will generate demand for approximately 175 acres of parkland.	(I.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of committed park and recreation facilities and services provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Parks and Recreation (Cont'd)		■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>
Fire Prevention and Suppression - Fire protection services are provided by the Orange County Fire Department on a contract basis. The current population of the study area generates a need for approximately 22 firefighter personnel.	The study area at build out will require 23 firefighters to maintain adequate safety levels.	(J.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of fire prevention and suppression services provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. (J.2) Roadways and internal circulation systems shall be designed to accommodate fire suppression equipment with adequate turnaround areas, as determined by the Orange County Fire Department. (J.3) All new development shall be provided with the water facilities needed to meet fire flow requirements as determined by the Orange County Fire Department. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Police Services and Crime Prevention - Police services are provided by the Orange County Sheriff's Department on a contract basis. The current population of the study area generates a need for 34 law enforcement personnel.	The study area at build out will require 35 law enforcement personnel to maintain adequate safety levels.	(K.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of police services and crime prevention services provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. (K.2) The City of Laguna Hills shall require that all new developments, other than a single family home being constructed on an individual lot, provide on-site security during construction, commensurate with the scale of the development and level of risk, as a means of preventing potential theft and vandalism. (K.3) Crime shall be discouraged through the incorporation of "defensible space" concepts into the design of dwellings and structures as outlined in Table IV-K-5 of the Master EIR. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Emergency Services and Facilities - The study area is served by two hospitals (461 beds), with paramedic and ambulance service provided by the Orange County Fire Department on a contract basis. The City participates in the County's Disaster Preparedness Plan.	In a major emergency, at build out of the General Plan study area the City would need to provide additional amounts of emergency services.	(L.1) The City of Laguna Hills shall maintain readiness to provide emergency services by adopting and implementing a comprehensive City Emergency Operations Plan. (L.2) The City of Laguna Hills shall maintain mutual aid agreements with regional emergency agencies to ensure the City's ability to receive assistance when demands for emergency services are greater than that of the City's available resources. (L.3) The City of Laguna Hills shall require all new development projects to provide at least two points of ingress and egress to provide adequate access in the event of an emergency situation. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>
General City Services and Facilities - Currently, the City provides general administrative services along with community, social and library services. These services are provided through a combination of City employees, contract services and use of County facilities.	The increased population in the study area will result in a commensurate increase in the need and demand for various City services and facilities.	(M.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of general City services and facilities provided to existing development. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Environmental Resources		
Open Space - The General Plan study area contains approximately 582.26 acres of open space of various kinds including, slopes/parkways, median islands, off-street trails, and general open space.	At build out, the General Plan study area will reserve approximately 480 acres as open space; therefore, the current open space plan includes sufficient amounts of open space to serve future growth within the City.	Implementation of the Laguna Hills General Plan will not adversely impact open space within the study area. Therefore no mitigation measures are needed.
Air Quality - The air quality in the study area reflects the overall air quality of the South Coast Air Basin. SCAQMD thresholds for reactive organic compounds (ROC), carbon monoxide (CO), suspended particulates (PM-10), nitrogen oxides (NOx), and sulphur oxides (SOx) are exceeded within the study area. Local CO concentrations are below State and federal standards in the existing condition.	Build out of the study area will result in a long-term increase in the daily volume of air pollutants in Laguna Hills, including 17,117 pounds of CO, 1,145 pounds of ROC, 2,884 pounds of NOx, 360 pounds of SOx, and 585 pounds of PM-10. Local CO concentrations will be below State and federal standards with implementation of the proposed General Plan.	(O.1) The City of Laguna Hills shall require that all proposed development or redevelopment projects include transportation mitigation measures contained in the Laguna Hills Master EIR. (O.2) Prior to issuance of a building permit for any development or redevelopment project, the City of Laguna Hills shall require that the applicant demonstrate incorporation of site design features that encourage use of alternative forms of energy and modes of transportation as suggested by the Air Quality Management Plan. Compliance will require the applicant to identify the site design features incorporated within the proposed building and design for approval by the City Building Official. Site design features to be considered shall include, but not be limited to, the following: ■ use turf block instead of paving for driveways with limited use or emergency access only; ■ provide pedestrian walkways both within the development and connecting to nearby commercial uses;

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Air Quality (Cont'd)		■ provide teleconferencing or video conferencing facilities or equipment; ■ contribute to centralized telecommuting facility in the City; ■ require percentage of parking spaces reserved for carpools/van pools; ■ provide bicycle racks; ■ provide shower/locker room facilities for employees; ■ provide bikeways and pedestrian oriented design plans; ■ provide on-site truck stacking and/or loading zones; and ■ use alternatively fueled (low emission) vehicles or electric (zero emission) vehicles. (O.3) Prior to approval of any development or redevelopment project, the City of Laguna Hills shall require that project designs incorporate the input of a certified arborist, landscape architect, and/or qualified horticulturist into the review and approval of landscape proposals through the design review process. The design shall indicate how plant materials and other landscape architectural features will be utilized to promote cooling during hot periods and prevent wind chill during the cool season. The following techniques shall be considered in the design of development projects. ■ Incorporate the use of deciduous trees in landscaping plans, especially near buildings and around expanses of paved areas. ■ Incorporate deciduous vines, trellises, and canopies to shade south and westward facing walls, to cool them in summer months. ■ Provide wind breaks to protect against winter and Santa Ana winds.

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Air Quality (Cont'd)		■ Trees and hedges planted close to buildings should be located so as to channel beneficial cooling breezes through openings. ■ Improve solar gain through tree plantings adjacent to buildings (O.4) Prior to issuance of a building permit for any new development or redevelopment, the Laguna Hills City Building official shall examine building/architectural plans to ensure that building design and construction materials reflect State Title 24 energy conservation requirements and current energy efficiency design to the maximum extent feasible. Measures to be considered include, but are not limited to, the following: ■ installation of non-concentrating solar collectors, low NOx heaters, or a combination of both in new swimming pools; ■ installation of solar water heating equipment or non-concentrating solar collectors in conjunction with conventional water heaters; ■ installation of double pane windows; ■ installation of high efficiency heat pumps, furnaces and water heaters, air conditioners, refrigerators, and clothes dryers or other energy efficient appliances and equipment; ■ installation of energy efficient ceiling and wall materials and duct insulation; ■ increase in thermal integrity through standard weatherization measures and advanced window glazing; ■ insulation of solid concrete walls with both exterior and interior products;

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Air Quality (Cont'd)		■ incorporation of passive solar designs, such as wall thickness, use of construction materials that absorb or reflect sunlight, building orientation, and roof overhangs; ■ use of time clocks and/or occupant sensors; ■ utilization of energy efficient water and space heating, refrigeration, cooling or cooking equipment; and ■ use of waste heat recovery systems. (O.5) The City of Laguna Hills shall reduce on-road mobile source emissions during the construction of new development and redevelopment projects by implementing the following measures, wherever feasible: ■ configure construction parking areas to minimize traffic interference along public access streets; ■ provide temporary traffic control (e.g., flag man) during all phases of construction to improve traffic flow where construction activities may interfere with on-road travel; ■ schedule construction activities that could affect traffic flows to non-peak travel hours (10:00 a.m. to 3:00 p.m. in residential and non-residential areas and 7:00 p.m. to 6:00 a.m. in non-residential, non-noise sensitive areas); ■ develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees; ■ development a construction traffic management program that includes, but is not limited to, rerouting construction-related traffic off congested streets, consolidating truck deliveries, and providing temporary dedicated turn lanes for movement of construction traffic to and from the site;

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Air Quality (Cont'd)		■ prohibit truck idling in excess of two minutes; ■ implement a shuttle service to and from restaurants and retail services during lunch hours; ■ sweep streets at the end of the day if visible soil material is carried onto adjacent paved public roads; and or ■ install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and other equipment leaving the site. (O.6) The City of Laguna Hills shall reduce off-road mobile source emissions during project construction of new development and redevelopment projects by implementing the following measures, wherever feasible: ■ use electricity from power poles rather than temporary diesel or gasoline power generators; ■ use methanol or natural gas powered mobile equipment rather than diesel or gasoline powered equipment; ■ apply non-toxic soil stabilizers according to manufacturers' specifications to all previously graded areas that have been inactive for ten (10) days; ■ replace ground cover in disturbed areas immediately at the suspension of construction in the area; ■ water active sites at least twice daily; ■ enclose, cover, water twice daily, or apply non-toxic soil stabilizers according to manufacturers' specifications to exposed soils materials with a five percent or greater silt content;

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Air Quality (Cont'd)		■ suspend grading activities when wind speeds (instantaneous gusts) exceeds 25 miles per hour; ■ apply water three times daily or non-toxic soil stabilizers according to manufacturers' specifications to unpaved construction roadways; ■ enforce a 15 miles per hour speed limit on unpaved portions of the construction site; ■ pave construction roads that have a traffic volume of more than 50 daily trips by construction equipment or more than 150 total daily trips. <i>Level of Impact after Mitigation: Cumulatively Significant Regional Impacts.</i>
Biological Resources - Due to the urbanized character of the study area, there are very few areas containing significant native habitats, plants, wildlife, or wetlands. The presence of sensitive species within the study area is very limited.	Because there are so few significant biological resources in the study area, there will be no significant impacts to wildlife or plants as a result of the proposed General Plan.	(P.1) Areas that have been identified as environmentally sensitive (Figure IV-P-1 of the Master EIR) and that have viable habitats are to be protected in place unless one or more of the below listed conditions can be met. Viable habitats are defined as the vegetative resources that contribute to habitat carrying capacity (vegetative species diversity, faunal resting areas, foraging areas, and food sources) and other significant biotic features. ■ the area has been designated as having little or no value as viable habitat and could not be improved; ■ the disruption of the habitat will be mitigated elsewhere on the site so as to create an improvement of the overall habitat; ■ the site has been included in a local or regional habitat conservation plan where disruption of the site will be offset by improvements elsewhere in the planning area; ■ the site has been reviewed in City's Open Space Management Plan as having no existing viable habitat worthy of preservation or improvement; or ■ an environmental finding is made, that includes a statement of overriding considerations that outweigh the development impact.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Mineral Resources - There are currently no areas within the study area that could be considered viable for the extraction of mineral resources.	Because there are no viable mineral resources within the study area, there are no impacts related to the potential extraction of mineral resources.	Although mineral resources exist in the study area, the developed nature of the area precludes the potential for mineral extraction in the future. Therefore, no mitigation measures are necessary.
Historic Resources - The study area contains few historic sites or cultural resources.	Due to the lack of historic sites or cultural resources within the study area, impacts are not anticipated.	(T.1) The City of Laguna Hills shall require the following condition of approval on all new development projects, including intensification of existing development: "If cultural resources are discovered during project construction, all work in the area of the find shall cease, and a qualified archaeologist or paleontologist as approved by the City of Laguna Hills shall be retained by the project sponsor to investigate the find, and to make recommendations on its disposition. If human remains are encountered during construction, all work shall cease and the Orange County Coroner's Office shall be contacted pursuant to procedures set forth in Section 7050.5 of the Health and Safety Code." <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>
Environmental Hazards		
Geology and Seismicity - Due to the study areas location and proximity to active faults in the Southern California region, the project area could experience strong groundshaking. The study area is not located within an "Alquist-Priolo Zone".	The increased population resulting from implementation of the proposed General Plan could result in a greater number of people experiencing earthquake activities within the study area.	(U.1) The City of Laguna Hills shall require that all new structures comply with the latest Uniform Building Code seismic design standards, as well as supplemental design criteria necessary to ensure that: - all uses needed for emergency response are designed to withstand sufficient "g" force to remain functional; and - the guidelines of Table IV-U-2 of the Master EIR are met. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Stormwater Management and Flooding - Stormwater management within the study area is provided by the Orange County Flood Control District. Existing facilities adequately serve the study area.	Build out of the General Plan study area will not result in any adverse impacts to existing flood control facilities. Existing facilities are adequate to serve increased development associated with the proposed project.	(V.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of the management of stormwater and flooding provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>
Noise - Existing roadway noise levels within the study area were modelled and are described on Table IV-W-2 of the General Plan Master EIR.	The increase in population and traffic expected at build out of the General Plan study area will result in a commensurate increase in noise levels throughout the City.	(W.1) The City of Laguna Hills shall require that all development projects determined to exceed the mitigation standards as described in Table IV-W-6 of the Master EIR shall incorporate, but not be limited to, those mitigation measures identified in Table IV-W-7 of the Master EIR. Mandatory mitigation shall apply to all described and applicable project conditions. Recommended mitigation shall apply to the extent that further mitigation is necessary to achieve noise levels that are insignificant. (W.2) The City of Laguna Hills shall not permit any proposed use or activity that generates noise in excess of 60 dBA CNEL into a known wildlife nesting or migration area or desirable open space area as necessary to maintain tranquillity, viable wildlife habitat and wildlife mobility. <i>Level of Impact after Mitigation: Cumulatively Significance.</i>

March 31, 1994

DRAFT MASTER EIR

Table II-1
Executive Summary

Existing Setting	Project Impacts (Preferred Alternative)	Mitigation Measures
Hazardous Materials - Due to the lack of industrial activity within the study area, no significant amounts of hazardous materials exist or are transported through the City. The study area is located within the San Onofre Nuclear Generating Station's Public Education Zone.	The increase in population related to the proposed project and the resulting increase in household hazardous waste generation could expose more people to hazardous waste episodes.	(X.1) The City of Laguna Hills shall require that all commercial, office, and business park uses comply with the provisions of the Orange County Hazardous Waste Management Plan and the most current amendments to the California Code of Regulations, Title 22. (X.2) Concurrent with submittal of development applications, project applicants will be required to submit a history of on-site soil use and, if warranted, a soil survey to determine the potential presence of hazardous substances in the soil. (X.3) The City of Laguna Hills shall reduce the risk associated with the accumulation of household hazardous waste by continuing to play an active role in the implementation of the County of Orange Household Hazardous Waste Program. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>
Airport Hazards Management - Portions of the study area are located within the accident potential and noise zones for MCAS El Toro.	Additional development within the City's northern annexation area will result in an increase in businesses and residents exposed to noise and accident potential from MCAS El Toro.	(Y.1) Prior to the full closure of the MCAS, El Toro, and the cessation of all military air operations affecting the City, the City of Laguna Hills shall require that all development within established MCAS, El Toro flight path conform to the height, density, intensity, and noise mitigation standards outlined in the military's AICUZ study. <i>Level of Impact after Mitigation: Mitigated to Below a Level of Significance.</i>

III. PROJECT DESCRIPTION

III. PROJECT DESCRIPTION

The "proposed project" addressed by this Master EIR is the General Plan for the City of Laguna Hills. The General Plan provides a description of the existing setting of the City at the time the plan was prepared, defines existing and proposed land uses, describes the type of city desired by the residents, and establishes goals, objectives, policies, and strategies to achieve the residents' vision.

A. LOCATION

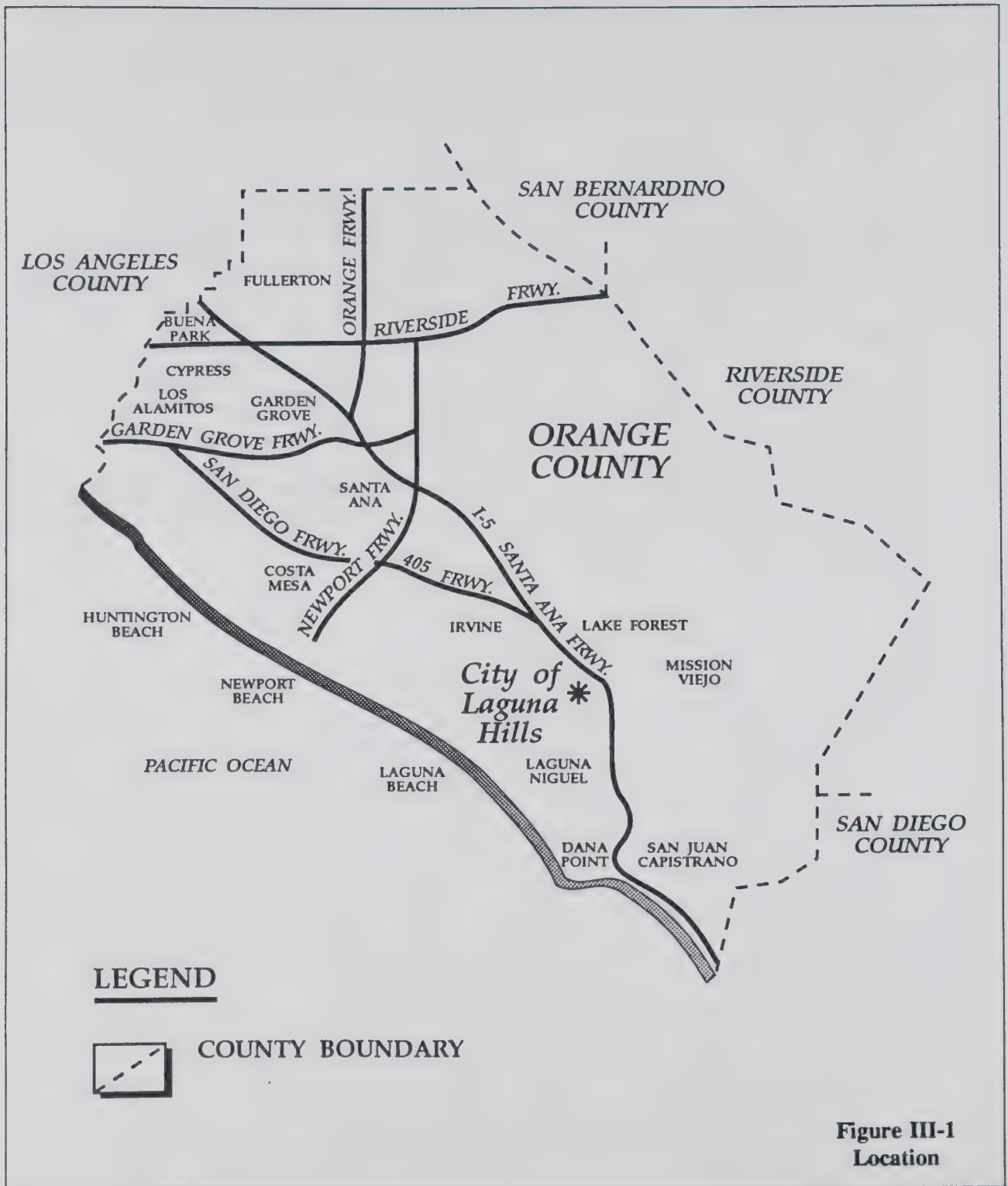
The General Plan study area is located in the San Joaquin Hills in an area of Orange County referred to as "South County" (see Figure III-1). Bounded by the cities of Lake Forest on the north, Laguna Niguel on the south, the Interstate 5 freeway and Mission Viejo on the east, and the unincorporated area of Aliso Viejo on the west, the study area is characterized by a rolling topography, suburban residential housing, and a prominent regional commercial center.

The General Plan study area includes 3,324.7 acres within the City of Laguna Hills and 755 acres within the adopted sphere of influence (see Figure III-2). In total, the General Plan study area includes 4,079.7 acres, 10,241 dwelling units, and 27,888 residents.

As noted above, the proposed project is the development of the first General Plan for the City of Laguna Hills. The study area for the General Plan includes the lands within the City of Laguna Hills, as well as lands within the City's sphere of influence.

CITY OF LAGUNA HILLS

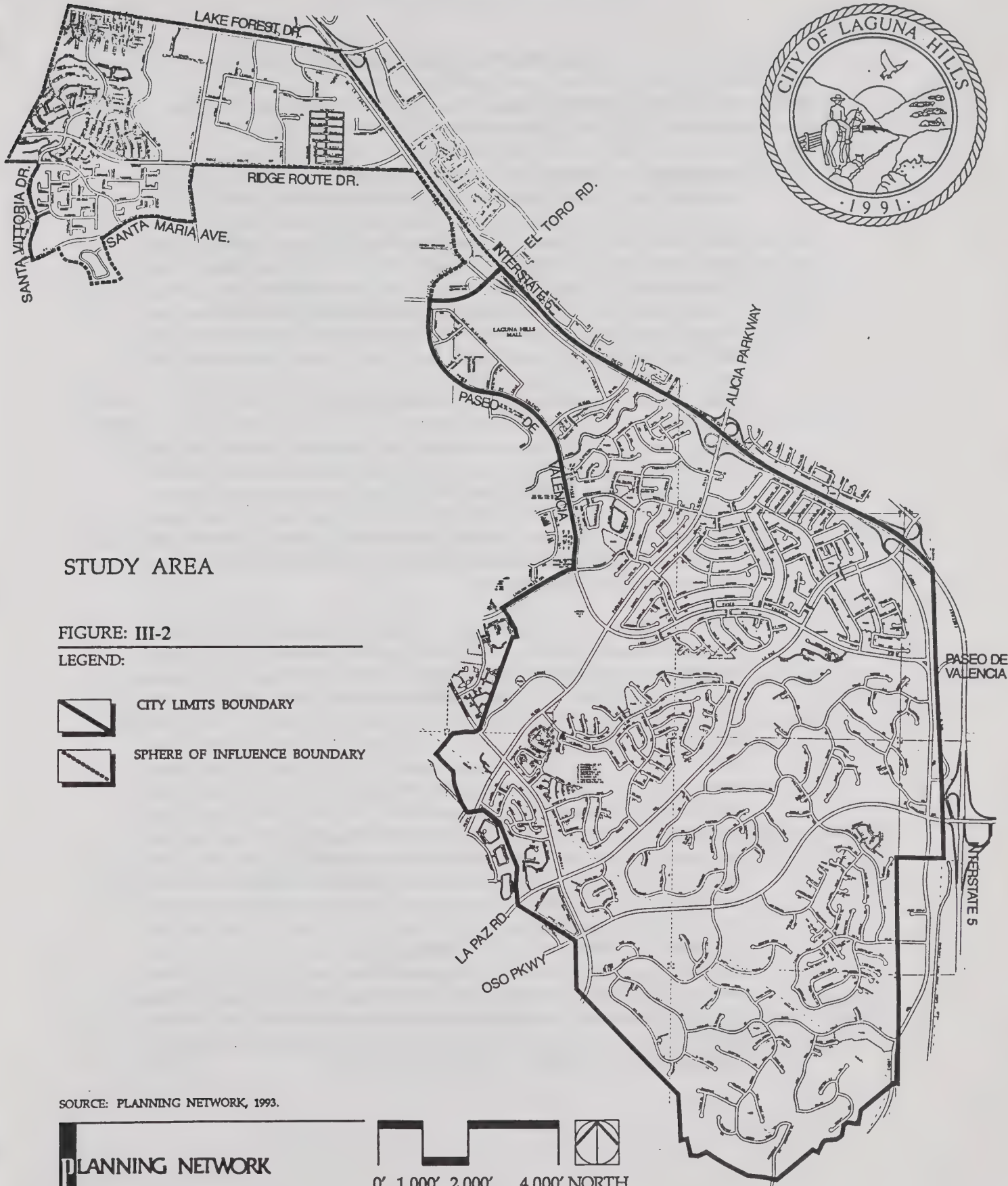
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March 31, 1994

CITY OF LAGUNA HILLS

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March 31, 1994

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B. GENERAL PLAN BACKGROUND

The General Plan revision incorporates all seven mandatory elements, as well as a number of topical issues. The General Plan document is organized into five chapters, as follows:

- ***Community Development and Design*** - This portion of the General Plan addresses the physical and urban design components that support the type of community Laguna Hills residents desire. Major topics discussed in this element include: population, housing, land use, and growth management. This portion of the General Plan also focuses on the organization of the City's physical environment into a logical, functional, and aesthetic pattern consistent with local social values. The Community Development and Design chapter fulfills the Measure M requirement for adoption of a Growth Management Element as part of municipal General Plans. This chapter also provides a summary of the manner in which other General Plan issues will affect the arrangement and design of development within the planning area.

This chapter also provides for the plans and programs necessary for the provision of housing for all economic segments of the community. Included in the discussion are issues related to the provision of housing for low, moderate, and upper income households, and those with special needs (elderly, handicapped, large families, and homeless). Finally, this chapter includes overall programs to be undertaken over the next two years to meet the needs of each of these groups.

- ***Fiscal Management*** - This portion of the General Plan includes programs related to sustaining the economic vitality of the community. The goals, concepts, and strategies in this portion of the plan are designed to ensure a continued positive municipal income flow to the City in the future.
- ***Municipal Facilities and Services*** - This portion of the General Plan addresses the services and facilities needed to support existing and future residential, commercial, and industrial development within the study area. Major topics discussed in this element include: circulation and transportation, infrastructure, educational facilities, parks/recreation, fire prevention, policy/emergency services, and general City services and facilities. This chapter focuses on establishing a clear tie between land use and the provision of public services. Overall, this chapter provides policies that achieve consistency between the Laguna Hills General Plan and the provisions of Proposition 111, the County's Congestion Management Plan, the South Coast Air Quality Management Plan, and SCAG's Regional Mobility Plan. This chapter also ensures that adequate levels of facilities and services are provided to Laguna Hills residents and businesses, and that new development pays its own way and does not impact the services and facilities enjoyed by present residents and businesses.

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- ***Environmental Management*** - This portion of the General Plan focuses on the use and management of natural resources and open space lands within the General Plan study area. This chapter establishes appropriate levels of resource conservation and preservation in light of the demands that will be placed on these resources by future residents and businesses. Major topics discussed in this element include: open space, air quality, biology, energy, water and mineral resources, and historic resources.
- ***Environmental Hazards*** - This portion of the General Plan includes an evaluation of natural and man-made hazards faced by Laguna Hills residents and businesses, and determines appropriate levels of protection from various hazards and ensuring that such protection is, in fact, provided. Major topics discussed in this element include: geology/seismicity, stormwater management and flooding, noise, hazardous materials, and airport hazards.

Each of the five chapters outlined above includes a statement of goals; a description of existing setting; and objectives, policies, and implementation programs for issues related to the element.

C. GENERAL PLAN GOALS

Each of the General Plan Elements contains general goals, along with more specific concepts and strategies. The following section summarizes the goals of the major General Plan topics:

LAND USE

Provide a well designed, high quality, and functional balance of land uses that reflect local community values, establishes an overall community concept for the community, is both locally and regionally responsible, and integrates the resolution of other General Plan issues into a cohesive pattern.

HOUSING

Provide adequate housing opportunities to serve all economic segments of the population regardless of age, sex, race, ethnic background, national origin, religion, family size, marital status, physical handicap, or other arbitrary factors.

GROWTH MANAGEMENT

Reduce traffic congestion and mitigate the traffic impacts of new development by requiring new development to pay its fair share toward local and regional roadway/transportation improvements, and tie the timing of new development to the availability of the facilities that are needed to support that development.

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FISCAL MANAGEMENT

Promote an economic base that provides service to the area's population, broadens business and employment opportunities for the community, and generates sufficient municipal income to support the services and facilities envisioned in the City of Laguna Hills General Plan.

CIRCULATION AND TRANSPORTATION

Maintain a transportation system that maximizes freedom and safety of movement and that maintains a balance between mobility, cost efficiency of maintenance, and the quality of the City's living environment.

INFRASTRUCTURE

Coordinate development activity with the provision of municipal services and facilities in a manner that maintains defined performance objectives for existing development, realizes cost efficiencies, and achieves an equitable sharing of the cost of municipal services and facilities.

OPEN SPACE

Maintain an open space system that will conserve remaining natural resources, preserve scenic beauty, promote a healthful atmosphere, provide for outdoor recreation, and protect the public health and safety.

AIR QUALITY

Promote the achievement of air quality that is conducive to good health and enjoyment of the area's climate for all citizens, and assist in the attainment of Federal and State air quality standards within the region.

NOISE

Promote noise compatible land use relationships by implementing noise standards to be utilized for design purposes in new development, and establishing a program to attenuate noise problems.

D. GENERAL PLAN LAND USES

EXISTING LAND USE

The existing land uses within the City of Laguna Hills are shown in Table IV-C-1 of the Environmental Analysis Section of the Master EIR. The Environmental Analysis Section also includes a description and discussion of the relationship of the existing General Plan land use policies and zoning regulations incorporated by the City from the County. Descriptions of the existing General Plan categories are shown in Table IV-C-2 of this Report. The majority of the land within the study area is zoned Planned Community, within which individual development regulations and standards have been adopted. The existing zoning designations and districts adopted by the City from the County are shown in Table IV-C-3 and Figure IV-C-3 of the Environmental Analysis Section of this report.

PROPOSED LAND USE PLAN

The General Plan study area, which represents the "project site" for this Master EIR, includes the land within incorporated Laguna Hills, as well as unincorporated land in the approved sphere of influence and future Laguna Hills annexation area. Table III-1 indicates the land use acreage distribution proposed in the new General Plan. The proposed Land Use Plan evaluated in this Master EIR includes approximately 2,600 acres of residential uses, broken into five categories: estate residential (1,150.55 ac.), low density residential (931.95 ac.), medium-low density residential (346.03 ac.), medium density residential (104.05 ac.), and high density residential (78.28 ac.). At build out there will be approximately 10,745 dwelling units in the City, with a total population of 29,111 residents living in the study area.

Non-residential uses, including public facilities, will total 862 acres and are broken into the following land use categories: commercial/office, mixed use, industrial, and public/institutional. Based on probable development intensities, it is estimated that the study area will eventually contain 2,958,875 square feet of commercial/office uses and 4,939,357 square feet of mixed use. In addition, there will be approximately 606 acres of park/open space.

CITY OF LAGUNA HILLS**DRAFT MASTER EIR**

Table III-1
Land Use Acreage Distribution Summary

Land Use Category	Acres
Residential	
Estate Residential (0-3.5 du/ac)	1,150.55
Low Density Res. (3.0-6.5 du/ac)	931.95
Medium-Low Density Res. (6.5-12.5 du/ac)	346.03
Medium Density Res. (12.5-18 du/ac)	104.05
High Density Res. (18-30 du/ac)	78.28
Commercial	
Village Commercial	206.10
Freeway Commercial	64.92
Community Commercial	74.46
Office	
Office Professional	21.40
Mixed Use	298.40
Public	
Public/Institutional	197.06
Recreation	
Park	128.26
Open Space	478.24
Total	4,079.70

Source: City of Laguna Hills General Plan, Planning Network, October, 1993.

E. BUILD OUT OF THE GENERAL PLAN STUDY AREA

At the present time, the Laguna Hills General Plan study area is essentially built out, and contains only enough vacant and underutilized land to accommodate approximately 504 additional new dwelling units and several vacant commercial parcels totalling less than one acre, adjacent to the existing mall. As a result, the actual amount of vacant land available for new development in Laguna Hills is relatively small.

Due to the small amount of land available for development in the Laguna Hills study area, build out of a majority of the General Plan study area will not likely extend substantially into the future. Rather, construction of new residences or businesses will be the result of market or economic demand. Thus, given the current economic conditions, and the available amount of vacant land, build out of the General Plan study area under the new land use plan could occur relatively quickly and, because of the overall lack of vacant land, build out under the new land use plan would not differ greatly from current conditions for a majority of the General Plan study area. However, under the General Plan there could be an intensification of uses along the I-5 Freeway Corridor, around the Laguna Hills Mall, and within the City's northern sphere of influence.

F. GENERAL PLAN LAND USE DESIGNATIONS

Land use designations for the Laguna Hills General Plan provide the City with a basis from which to make future development decisions. Table II-1 of the General Plan contains a summary of the proposed General Plan Land Use designations. These designations include the following three main components:

- ***Land Use Designation*** - This portion of the designation indicates the primary purpose of each land use category.
- ***General Plan Land Use Description, Type, and Intensity of Use*** - Provides a description of the types of allowable uses, as well as the maximum holding capacity of each designation. The residential designations indicate the maximum number of persons per net acre, while floor area ratio indicates the maximum permissible development for non-residential uses.
- ***Land Use Map Graphic Representation*** - The General Plan Land Use Map gives a visual representation of the designations to provide a reference for future land use decisions and potential conflicts (see Land Use Map in pocket at end of General Plan).

In conjunction with the proposed General Plan Goals, Approach, Strategies, and Implementation Programs, these designations provide the basis for a comprehensive land use plan for the City's future development.

IV. ENVIRONMENTAL ANALYSIS

IV. ENVIRONMENTAL ANALYSIS**A. POPULATION****EXISTING SETTING****Growth Trends**

Between 1900 and 1980 the State of California grew an average of 3.5 percent each year. In Orange County, however, the population grew at an average annual rate of 5.9 percent, which is 68 percent higher than the State. The post-war decades between 1950 and 1970 were years of spectacular growth for Orange County. In 1950, just over 216,000 persons lived in the County; by 1970, the population had grown to over 1.4 million. During this time period, the majority of new development occurred in northern areas of Orange County. In the 1970s, as vacant land became scarcer, growth shifted to the south with the rise of new cities of Irvine, Mission Viejo, and Laguna Niguel.

The area currently within the corporate boundaries of the City of Laguna Hills experienced a tremendous amount of growth in the 1980s, with an 88 percent population increase between 1980 and 1990 or an annual growth rate of 6.5 percent (see Table IV-A-1).

Since 1970, Orange County's growth rate has dropped off substantially, although it still exceeds State growth rates. During the 1980s, the southern portion of Orange County experienced between a four to five percent annual growth rate.

Table IV-A-1
Laguna Hills General Plan Study Area - Population

Year	Total		Change	
	City Population	Sphere Population	City	Sphere
1980	12,181	N.A.	N.A.	N.A.
1990	22,938	4,950	88.3%	--

Source: 1980 and 1990 Census; Alfred Gobar Associates, November 1992.

Race and Ethnicity

The population in Laguna Hills is less diverse in terms of ethnic composition than Orange County as a whole. The majority of the General Plan study area population is of Non-Hispanic White racial origin, comprising 86.2 percent, slightly higher than the County's figure of 78.6 percent (see Table IV-A-2). However, the City has a greater diversity of people than in 1980, when the persons who classified themselves as white made up 92.5 percent of the population.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-A-2
Racial and Ethnic Composition (1990)

Race and Ethnicity	City of Laguna Hills		Sphere of Influence		Total Study Area		County of Orange	
	#	%	#	%	#	%	#	%
White	19,771	86.2	4,275	86.4	24,046	86.2	1,894,593	78.6
Black	319	1.4	85	1.7	404	1.5	42,681	1.8
Asian/Pacific Islander	2,226	9.7	432	8.7	2,658	9.5	249,192	10.3
American Indian	78	0.3	32	0.6	110	0.4	12,165	0.5
Other	544	2.4	126	2.5	670	2.4	211,925	8.8
Total	22,938	100.0	4,950	100.0	27,888	100.00	2,410,556	100.0
Spanish/Hispanic Origin ¹	2,108	9.2%	412	8.3%	2,520	9.0%	564,828	23.4%

Source: 1990 Census; Alfred Gobar Associates, November 1992.

¹ Spanish/Hispanic Origin is technically an ethnic distinction; persons in this ethnic category often classify themselves in one of several racial categories. To avoid double counting, this category is kept separate.

Household Income

An important factor with respect to housing affordability is household income. While upper income households have more discretionary income to spend on housing, low and moderate income households are more limited in the range of housing they can afford.

There were a wide range of household incomes in the General Plan study area according to the 1990 Census (see Table IV-A-3). Household income within the incorporated portion of the General Plan study area were understandably higher than those in the sphere of influence since a majority of units in the City are owner occupied single family, where as a majority of units in the sphere of influence are condominium and rental units.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-A-3
Household Income (1990)

Income Level	City of Laguna Hills		Sphere of Influence		Total Study Area		County of Orange	
	Number of Households	Percent of Households	Number of Households	Percent of Households	Number of Households	Percent of Households	Number of Households	Percent of Households
Under \$20,000	630	8.3	187	9.3	817	8.5	137,276	16.6
\$20,000 - \$29,999	610	8.1	215	10.7	825	8.8	214,162	25.9
\$30,000 - \$39,999	630	8.3	223	11.1	853	8.9		
\$40,000 - \$49,999	810	10.7	315	15.7	1,125	11.7	101,512	12.2
\$50,000 - \$59,999	623	8.2	297	14.8	920	9.6	88,911	10.7
\$60,000 - \$74,999	1,079	14.3	360	17.9	1,439	15.0	100,197	12.1
\$75,000 - \$99,999	1,173	15.5	200	10.0	1,373	14.3	93,749	11.3
\$100,000 - \$124,999	812	10.7	104	5.2	916	9.5	43,810	5.3
\$125,000 - \$149,999	348	4.6	64	3.2	412	4.3	18,391	2.2
\$150,000 +	860	11.3	44	2.2	904	9.4	30,850	3.7
Total	7,569	100.0	2,009	100.0	9,584	100.0	828,858	100.0

Source: 1990 Census; Alfred Gobar Associates, November 1992.

Age Composition

According to the 1990 Census, the largest percentage of persons in the General Plan study area is between the ages of 35 and 44 (see Table IV-A-4). For the County, the largest percentage of population is between the ages of 25 and 34, slightly younger than the largest percentage of population found in the General Plan study area. The age breakdown of the population in both the City of Laguna Hills and the County of Orange is quite similar, with the largest percentage of population between the ages of 25 and 54. Median age for the General Plan study area is 31.97 for the incorporated portion and 33.56 in the sphere of influence. This compares with a median age of 31.5 in the County.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-A-4
Age of Population (1990)

Years	City of Laguna Hills		Sphere of Influence		Total General Plan Study Area		County of Orange	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
5 & Under	2,067	9.0	443	8.7	2,500	9.0	217,171	9.0
6 - 9	1,409	6.1	217	4.4	1,626	5.8	129,743	5.4
10 - 13	1,401	6.1	171	3.4	1,572	5.6	119,261	4.9
14 - 17	1,346	5.9	173	3.5	1,519	5.4	121,740	5.1
18 - 20	967	4.2	172	3.4	1,139	4.1	119,052	4.9
21 - 24	1,243	5.4	265	5.4	1,508	5.4	175,390	7.3
25 - 34	3,919	17.1	1,098	22.2	5,017	18.0	489,232	20.3
35 - 44	4,504	19.6	911	18.4	5,415	19.4	378,712	15.7
45 - 54	3,005	13.1	510	10.3	3,515	12.6	259,699	10.8
55 - 64	1,234	5.4	342	7.0	1,576	5.7	181,565	7.5
65 - 74	681	3.0	261	5.3	942	3.4	130,021	5.4
75 - 84	611	2.7	277	5.6	888	3.2	67,450	2.8
85 +	551	2.4	120	2.4	671	2.4	21,520	0.9
Total	22,938	100.0	4,950	100.0	27,888	100.0	2,410,556	100.0

Source: 1990 Census; Alfred Gobar Associates, November 1992.

Educational Attainment

The education levels in a community are important indicators of a variety of socioeconomic characteristics, primarily occupation and income. According to the 1990 Census,¹ for residents over 25 years of age, 93.2 percent were high school graduates or better, and 39.0 percent had a bachelor's degree or better. These high education levels indicate, not only a well educated community, but an area with a high percentage of people employed in high salary, professional occupations. The salaries of these types of jobs increase the amount of a household's money that is available for housing, and therefore, the demand for single family homes.

Employment

In general, the workforce in the City of Laguna Hills is highly skilled. According to the 1990 Census, 76.6 percent of the employed persons in Laguna Hills work in "white collar" occupations, while 23.4 percent of the City's population are involved in "blue collar" employment (see Table IV-A-5). Overall, this represents a higher level of affluence in the community than in the County as a whole.

¹ Information based on 1990 Census Designated Place.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-A-5
Occupations For Residents in the City of Laguna Hills

Occupation	City of Laguna Hills		Sphere of Influence		Total General Plan study area		Orange County	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White Collar	9,370	76.6	2,040	75.2	11,410	76.4	845,155	65.4
Professional/Technical	2,389	19.5	562	20.7	2,951	19.8	237,570	18.4
Mangers/Proprietors	2,932	24.0	523	19.3	3,455	23.1	214,200	16.6
Clerical	1,692	13.8	557	20.5	2,249	15.1	212,958	16.5
Sales	2,357	19.3	398	14.7	2,755	18.4	180,427	14.0
Blue Collar	2,855	23.4	672	24.8	3,527	23.6	447,317	34.6
Craftsman	811	6.6	248	9.1	1,059	7.1	133,204	10.3
Operatives	353	2.9	103	3.8	456	3.1	109,981	8.5
Service Workers	1,372	11.2	248	9.1	1,620	10.9	141,327	10.9
Laborers	278	2.3	62	2.3	340	2.3	42,990	3.3
Farmworkers	41	0.3	11	0.4	52	0.3	19,815	1.5
Total Employment	12,225	100.0	2,712	100.0	14,937	100.0	1,292,472	100.0

Source: Alfred Gobar Associates, November 1992.

PROJECT IMPACTS

Impacts of future development on population are discussed in the Population Section of the Community Development and Design chapter of the General Plan. As reported in that chapter, due to the limited amount of land available for residential development, the City will not experience significant population increases in the foreseeable future. Estimates based on vacant parcels and intensification of existing underutilized residential parcels indicate that approximately 504 new dwelling units could be added before build out of the study area is achieved. Therefore, a total population increase of approximately 1,223 persons could be expected. At build out of the study area, the City of Laguna Hills could eventually support a population of approximately 29,111 residents, as indicated in Table V-1 in the Alternatives Section of this EIR.

MITIGATION MEASURES

Mitigation for impacts associated with the increase of population within the General Plan study area are related to Circulation/Transportation, Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, Hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR**B. HOUSING****EXISTING SETTING****Unit Type**

The housing unit characteristics within the General Plan study area reflect the single family character of the community. Although the City has a mix of unit types, single family development makes up nearly 80 percent of the study area housing stock, with all other housing types below Orange County Comparisons (see Table IV-B-1).

**Table IV-B-1
Housing Unit Mix**

Units in Structure	City of Laguna Hills		Sphere of Influence		Total General Plan study area		County of Orange	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1 - detached and attached	6,296 ¹	77.1	1,552	79.9	7,848	76.6	536,312	61.6
2	26	0.3	12	0.6	38	0.4	16,472	2.0
3 - 4	203	2.5	254	12.3	457	4.5	67,232	7.5
5 - 9	352	4.3	6	0.3	358	3.5	59,696	6.8
10 - 19	562	6.9	7	0.3	569	5.5	54,507	6.2
20 - 49	126	1.5	0	0.0	126	1.2	41,341	4.7
50 +	514	6.3	0	0.0	514	5.0	58,304	6.6
Mobile Home	3	0.0	222	10.7	225	2.2	32,396	3.6
Other	88	1.1	18	0.9	106	1.0	8,812	1.0
Total	8,170	100.0	2,071	100.0	10,241	100.0	875,072	100.0

Source: 1990 Census; Alfred Gobar Associates, November 1992.

¹ Includes 1,383 condominiums.

Conditions of Units

Laguna Hills was primarily built in the 1970s and 1980s, with just under 62 percent of the housing units being built between 1970 and 1984. Only 0.5 percent of the City's housing units were built before 1960, and no housing units were built before 1950.

March 31, 1994

DRAFT MASTER EIR

Based on the average life of a house, the accepted standard for major rehabilitation needs is after 30 years. In 1990, approximately seven percent of the City's housing stock was over 30 years old. By the year 2002, approximately 38.1 percent of the City's housing will be 30 years or older. This indicates the need for continued maintenance and the potential need for targeted programs in the future. However, the affluence of the area indicates that residents have maintained their homes, and it is unlikely that major rehabilitation will be necessary in this time period. Consequently, the housing stock does not have a significant need for rehabilitation.

The City's Building Department conducted an evaluation of the structural condition of the City's housing stock in December 1992. Based on exterior evaluation, neighborhoods were rated as "very good," "good," "adequate," or "substandard." These evaluations are defined further below.

- **Very Good Condition:** Recently built housing.
- **Good Condition:** Unit in good condition, with no outwardly apparent signs of decay.
- **Adequate Condition:** Structure generally sound, but in need of minor repair to correct deficiencies such as patched, loose, or missing roof material; cracking or peeling paint; broken or missing windows/screens; broken, weathered, or worn wood trim or siding; missing steps or porches; loose or worn wiring.
- **Substandard Conditions:** Structure contains minor or major structural deficiencies such as loose protective surface; settled porch or roof; weakened structure or inadequate building foundation.

All of the housing units in Laguna Hills were in either very good condition or good condition, according to the City's Building Department.

Tenure and Vacancy Rate

The tenure distribution of a community's housing stock, owner versus renter, influences several aspects of the local housing market. Residential mobility is influenced by tenure, with ownership housing evidencing a much lower turnover rate than rental housing. Housing overpayment, while faced by many households regardless of tenure, is far more prevalent among renters. Tenure preferences are primarily related to household income, composition, and age of the householder (see Table IV-B-2).

Vacancy, or the rate of occupied versus unoccupied units, is a widely used indicator of housing need and choice, as well as the relative health of housing markets. A vacancy rate of four to six percent in a mature community generally indicates a fairly stable housing market. Conversely, a high vacancy rate suggests that there is an oversupply of housing. The vacancy rate for purposes of this analysis constitutes units available to renters or buyers.

In 1990, the vacancy rate in the General Plan study area was 6.5 percent overall, with a 3.2 percent vacancy rate for for-sale housing units, and 1.4 percent for for-rent housing units. The remaining vacancy rate is composed of 1.1 percent for rented or sold housing units that are presently not occupied, and 76 housing units that are vacant for various other reasons, such as vacation homes and occasional use. This is slightly higher than the County's overall vacancy rate of 5.5 percent. This figure includes housing units both for sale and for rent. This is generally considered a high vacancy rate and is likely to exist in the General Plan study area due to the high cost of housing and the current recession.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Cost

Ownership Housing

In 1990, the majority of housing in Laguna Hills was priced over \$200,000 (see Table IV-B-3). Median value of housing in the General Plan study area was \$333,453.00 within the City and \$184,270.00 within the sphere of influence. The difference is due to the fact that large lot "upper end" housing units are located in the incorporated portion of the General Plan study area and that condominiums make up 77 percent of the units in the sphere of influence.

When compared to the County median of \$250,300.00, the incorporated portion of the General Plan study area was approximately 33 percent higher, and the City's sphere of influence represented only 73 percent of the County median.

Rental Housing

The cost of rental housing in the General Plan study area is significantly higher than that of the County as a whole. Contract rent is the monthly rent agreed to or contracted for, regardless of furnishings, utilities, fees, meals, or any other services that may be included. The median contract rent in the County is \$728.00 as compared to \$879.00 in the incorporated portion of the General Plan study area, and \$917.00 for the City's sphere of influence. The General Plan study area also had more than twice the amount of rental units charging \$1,000.00 or more than did the County as a whole. As is stated in the previous section, the variety of rental housing type within the City's sphere of influence is limited, and may be responsible for the disparity between the rest of the General Plan study area. The median rent for the City of Laguna Niguel in 1990 was comparable to that of Laguna Hills at \$874.00.

To obtain more specific data on the type of rental units, a newspaper survey was conducted. There are many rental units in the City of Laguna Hills, ranging in rent from \$695 to \$2,750 (see Table IV-B-4). The majority of rental units in the City are single family homes, townhomes, or condominiums. The majority of rental units are two-bedroom dwelling units, although there are quite a few three-bedroom housing units as well. There is an absence of advertisements for apartment rentals within the General Plan study area. This may be due to either a low vacancy rate in the General Plan study area, or the fact that apartment owners do not need to advertise in order to fill units.

Housing Affordability

State and federal standards for housing overpayment are based on an income-to-housing cost ratio of 30 percent and above. Households paying greater than this amount have less income left over for other necessities, such as food, clothing, utilities, and health care. It is recognized, however, that upper income households are generally capable of paying a larger proportion of their income for housing, and therefore, estimates of housing overpayment generally focus on lower income groups.

The distinction between renter and owner housing overpayment is important because, while homeowners may over-extend themselves financially to afford the option of home purchase, the owner always maintains the option of selling the home. Renters, on the other hand, are limited to the rental market, and are generally required to pay the rent established in that market. An analysis of those households that are currently overpaying for housing will be included in the General Plan Housing Element.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-2
Housing Tenure

Type of Structure	City of Laguna Hills				Sphere of Influence				Total General Plan study area				County of Orange			
	Owner Occupied		Renter Occupied		Owner Occupied		Renter Occupied		Owner Occupied		Renter Occupied		Owner Occupied		Renter Occupied	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Single Family	5,385	95.1	485	25.4	1,191	80.4	325	61.7	6,576	92.0	810	33.7	428,367	86.2	89,311	27.0
Multiple Family	249	4.4	1,368	71.7	88	5.9	183	34.7	337	4.7	1,551	64.5	36,501	7.3	234,592	71.0
Mobile Home	2	0.0	1	0.1	190	12.8	11	2.1	192	2.7	12	0.5	28,223	5.7	2,232	0.7
Other	25	0.5	54	2.8	13	0.9	5	0.9	38	0.5	30	1.2	3,733	0.8	4,107	1.3
Total	5,661	100.0	1,908	100.0	1,482	100.0	527	100.0	7,143	100.0	2,403	100.0	496,824	100.0	330,242	100.0

Source: 1990 Census; Alfred Gobar Associates, November 1992.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-3
Housing Value

Housing Price	City of Laguna Hills		Sphere of Influence		Total General Plan Study Area		County of Orange	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under \$50,000	19	0.3	7	0.5	26	0.3	2,950	0.8
\$50,000 - \$74,999	9	0.2	1	0.1	10	0.1	1,985	0.5
\$75,000 - \$99,999	7	0.1	4	0.3	11	0.1	4,666	1.1
\$100,000 - \$149,999	417	7.4	217	14.3	634	7.5	31,739	7.6
\$150,000 - \$199,999	506	8.9	747	50.4	1,253	14.9	75,812	18.2
\$200,000 - \$299,999	1,543	27.3	440	29.7	3,236	38.5	160,372	38.5
\$300,000 - \$499,999	1,958	34.6	65	4.4	2,023	24.1	105,221	25.3
\$500,000 +	1,200	21.2	1	0.1	1,201	14.3	33,497	8.1
Total	5,661	100.0	1,482	100.0	8,394	100.0	416,242	100.0

Source: 1990 Census; Alfred Gobar Associates, November 1992.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-4
Contract Monthly Rent for Renter-Occupied Housing Units

Monthly Rent	City of Laguna Hills		Sphere of Influence		Total Study Area		County of Orange	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
No Cash Rent or Rent Under \$100	27	1.4	11	.21	38	1.6	6,841	2.1
\$100 - \$499	45	2.4	112	21.2	157	6.4	29,291	9.0
\$500 - \$599	32	1.7	7	1.3	39	1.6	43,105	13.2
\$600 - \$699	335	17.5	11	2.1	346	14.2	67,814	20.7
\$700 - \$999	864	45.1	169	32.1	1,030	42.3	130,036	39.7
\$1,000 +	608	31.9	217	41.2	825	33.9	50,167	15.3
Total	1,908	100.0	527	100.0	2,435	100.0	327,254	100.0

Source: 1990 Census; Alfred Gobar Associates, November 1992.

Table IV-B-5
Rental Units
November 1992-January 1993

Number of Bedrooms	Number Advertised For Rent	Average Monthly Rent	Range
One-Bedroom	1	\$695 ¹	NA
Two-Bedroom ²	18	\$949	\$895 ¹ - \$1,150
Three-Bedroom	13	\$1,124	\$950 - \$1,375
Four-Bedroom	2	\$2,523	\$2,295 - \$2,750
Five-Bedroom	1	\$2,200	NA

Source: The Orange County Register, November 29, 1992 through January 22, 1993.

¹ Income restricted and affordable residences.

² Includes apartments, condominiums, and single family homes.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

HOUSING NEEDS

Future Housing Needs

State housing element law requires that each city analyze its existing and projected housing needs for all income levels. This analysis must include a locality's fair share of the regional need. The distribution of regional need is prepared by the Southern California Association of Governments (SCAG) in its Regional Housing Needs Assessment (RHNA). The current RHNA was prepared in 1988 and assessed the regional housing need for the five year period 1989-1994. However, the City of Laguna Hills was not incorporated until 1991; therefore, the City was not assigned a regional need by SCAG.

Housing Units Eligible for Conversion

State law requires the City to identify, analyze, and propose programs in the General Plan Housing Element to preserve housing units that are currently restricted to low income housing. This section identifies all of the low income housing units in the General Plan study area that are at risk of converting to non-low income housing uses between July 1, 1994 and July 1, 2004. This inventory includes all multifamily rental units assisted under Federal, State, and/or local programs including HUD programs, State and local bond programs, redevelopment programs, and local in-lieu fees, inclusionary, density bonus, or direct assistance program.

There are no housing units in the General Plan study area that are at risk of converting from low income housing through the loss or termination of State or federal subsidies.

There is one residential project in the General Plan study area that participates in the County's Multifamily Housing Program. This program provides revenue bond financing for multifamily projects having units that are restricted to low income tenants. The location and status of the Aliso Creek development is included in Table IV-B-6.

Table IV-B-6
Assisted Housing at Risk of Conversion

Project Name	Location	Type of Assistance	Length of Affordability Controls	Earliest Potential Conversion Date	Number of Units	Number of Affordable Units
Aliso Creek	24152 Hollyoak, Laguna Hills	Revenue Bond Program	10 years	November 2007	538	109

Source: County of Orange, County Administrative Office, 1993

Since there are no assisted units (as defined by subsection 65583(a) of the State Government Code) within the General Plan study area that fall within the ten year study period, no further analysis is necessary.

HOUSEHOLD CHARACTERISTICS

General Characteristics

The characteristics of the population provide an essential component toward the understanding of growth and change in a community. In addition, information collected on the household level provides a good base for the analysis of a community's housing needs. The Bureau of the Census defines a household as all persons who occupy a housing unit, which may include single persons living alone, families related through marriage or blood, and unrelated individuals living together. Persons living in retirement or convalescent homes, dormitories, or other group living situations are not considered households.

Household Composition

In 1990, there were 7,569 households in the City of Laguna Hills and 2,237 within the City's sphere of influence. Families represent the City's predominant household type, 76 percent in the City and 66 percent in the sphere of influence, which is similar to the County's figure of 72 percent.

Household Size

Household size is an important indicator identifying sources of population growth as well as overcrowding in individual housing units. A city's average household size could decrease if the population is aging.

In 1990, the average household size in the General Plan study area was 3.03 persons per household for the incorporated portion, and 2.45 persons per household for the sphere of influence. The incorporated portion of the General Plan study area has a slightly higher household size than the County's household size of 2.91. This characteristic is supported by the fact that the city is made up of a majority of family households (75.7 percent) in sizable homes.

Household size is also an indication of overcrowding. The standard measure of overcrowded housing used by the Census is a ratio of more than one person per room, excluding bathrooms, kitchens, hallways, and porches.

According to the 1990 Census, in the General Plan study area only 193, or 2.7 percent, of the owner-occupied housing units had over 1.01 persons per room. Just under 9 percent, or 210 housing units, of the renter-occupied housing units were overcrowded. In the County, the Census estimated that 26,859, or just over five percent, of the owner-occupied housing units were overcrowded, and 65,632, or 20 percent, of the renter-occupied housing units were overcrowded. Housing units within the General Plan study area, therefore, were far less likely to be overcrowded than those of the County as a whole.

Special Needs Households

Certain segments of the population may have a more difficult time finding decent affordable housing due to special circumstances. The State of California defines these "special needs" households as the elderly, disabled persons, large families, female-headed households, farmworkers, and the homeless in Laguna Hills. These persons and households include up to 15 percent of the population in the City (see Table IV-B-7).

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-7
Summary of Special Needs Groups
within the General Plan Study Area

Group	Number of Households/Persons	Percent of Total Households/Population
Elderly (65+)	1,843	8.0
Disabled ¹	1,142	7.1
Large Families ²	1,258	13.1
Female-headed Households	711	7.4
Farmworkers	52	0.5

Source: 1990 Census; Alfred Gobar Associates, November 1992.

¹ Based on 1990 Census Designated place.

² Based on the number of households with five or more persons.

Elderly

The fastest growing segment of the County's population continues to be older adults. The County estimates that eight percent are home bound or shut-ins, and approximately 46 percent of those residing in the community need some type of assistance to remain independent. The special housing needs of many elderly households result from their lower, fixed incomes, physical disabilities, and dependence needs. There were 1,843 elderly persons in Laguna Hills and 658 in the unincorporated portion of the General Plan study area in 1990, representing nine percent of the population. Census data indicate that approximately 4.8 percent of elderly persons in Laguna Hills live below the poverty line.

There are several social service programs that the County offers to elderly persons.

- **Home Helping Hands Registry**, located at 23547 Moulton Parkway, Suite 212, in Laguna Hills, is a program of the Volunteer Center of Greater Orange County, for referrals as independent providers of in-home care for frail older or handicapped persons in Orange County.
- **Iglesia Park-County of Orange**, located at 24671 Via Iglesia, in Laguna Hills, offers senior lunches, as well as socialization and group meeting opportunities.
- **Jewish Family Service**, located at 23421 S. Pointe Drive, Suite 155, in Laguna Hills, offers a full service center for seniors, and serves a kosher lunch program Monday through Thursday.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

- *Laguna Hills Senior Center*, located at 24310 Moulton Parkway, Suite C, offers a nutrition program, congregate meals and home delivered meals, case management, multiple senior services and activities, as well as information and referral.
- *Meals on Wheels and a Home Delivered Meals Programs*, which provide hot meals to elderly shut-ins, are also available in Laguna Hills.
- *Saddleback Coordinated Home Care*, 24421 Calle de la Louisa, in Laguna Hills, provides home health services, and comprehensive care volunteers for the elderly.
- *YMCA-Saddleback Valley Adult Day Care*, in Laguna Hills, provides day care for frail, elderly age 60 and over Monday through Friday. Program features therapeutic, recreational, health and social services for adults and the elderly.

Services outside of the City that serve the elderly include:

- *Orange County Health Care Agency (South)*, located at 27800 Medical Center Road, Suite 304, in Mission Viejo, offers outpatient mental health services for adults and seniors.
- *Orange County Housing Authority*, 2043 N. Broadway, in Santa Ana, offers rental assistance for the elderly in the County. The Section 8 "Certificate" and "Housing Voucher" Programs were established by Federal Law. Both provide rental assistance for low income persons in need of decent, safe and sanitary housing. The "Certificate" program requires families to pay not more than 30 percent of their adjusted income towards rent. The total amount of the rental unit must be approved by the Housing Authority and is based on utilities, location, and condition of each rental dwelling. In addition, the total rent must fall within the Housing Authority's Fair Market Rent limits.

The "Housing Voucher" program allows families to pay more than 30 percent of their adjusted income towards rent. Families pay the difference between the owner's rental price of the dwelling and the Housing Authority's portion of the rent. According to the Orange County Housing Authority, there are 19 elderly families, in one bedroom housing units, and two elderly families in two bedroom housing units, participating in the Section 8 "Certificate" Program. The Housing Authority does not have any figures on the number of elderly waiting for assistance. However, by applying a ratio of the number of people in the County on the waiting list to the City, the Housing Authority estimates that 42 families in the City of Laguna Hills who are waiting for housing assistance. The Housing Authority does not have a list of people receiving assistance in this program. However, by applying the same ratio, approximately five families in the City are participating in the voucher program. There is no way to estimate if any of these are elderly persons.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

- *Oso Viejo Community/Senior Center*, 24932 Oso Viejo Road, in Mission Viejo. This is a multi-purpose senior center providing services and recreation to seniors in the Saddleback Valley.
- *St. Joseph's Adult Day Health Care*, 24772 Chrisanta Drive, in Mission Viejo, provides a structured day-care center program for the frail elderly with diminished mental abilities.

The proportion of elderly can be expected to increase as those persons between the ages of 35 and 64 grow older. Escalating housing costs, particularly in the rental housing market, severely impact housing affordability for the elderly, who are usually on fixed incomes. Housing needs of the elderly can be addressed through the provision of smaller units, shared living arrangements, congregate care housing, in-home services, and housing assistance programs.

Handicapped

Physical handicaps can hinder access to housing units of traditional design as well as potentially limit the ability to earn adequate income. According to the 1990 Census 28.5 percent of the elderly residents have mobility or self care limitations. Thus, handicapped accessible units provided in the City's senior housing projects address the needs of a large segment of the City's handicapped population.

A 1988 countywide needs assessment conducted by the Dayle McIntosh Center for the Disabled revealed that housing accessibility and affordability is the second greatest concern among disabled persons in Orange County. Individuals who are mobility impaired need housing that can accommodate wheelchairs or have been designed with level entryways and no interior or exterior stairs. Housing opportunities for the handicapped can be maximized through the provision of affordable, barrier free housing.

The Orange County Housing Authority's "Certificate" program is the only form of rental assistance offered to a disabled adult or a family with a disabled minor child involved in a program of rehabilitation through the State Department of Rehabilitation, Mental Health, Developmental Services, or their approved agencies.

Large Families

Large families are identified as a group with special housing needs based on the limited availability of adequately sized, affordable housing units. Large families often have lower incomes, frequently resulting in the overcrowding of smaller dwelling units and, in turn, accelerating unit deterioration. Household size is an important indicator identifying sources of population growth as well as overcrowding in individual housing units.

Approximately 15 percent of the City's households contain five or more persons. This proportion is identical to that found in Orange County as a whole. However, large families in the County are primarily associated with minority populations who have recently immigrated into this country and are often low and moderate income and often result in overcrowded units. On the other hand, the City of Laguna Hills has attracted many high income large families, who live in large homes and, therefore, do not encounter overcrowding problems.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Female-Headed Households

Female-headed households tend to have lower incomes than male-headed households due to the lower earning power associated with women in the workforce. In addition, female-headed households are more likely to have children than male-headed households.

In 1990, the Census indicated that 11 percent of the households in the City were headed by women. This is close to the County's figure of 8 percent. In the City of Laguna Hills, two-thirds, or 66 percent, of the female-headed households contained children under the age of 18, while less than one-half, or 45 percent, of the male-headed households had children under the age of 18. The presence of children and the lower income characteristic of female-headed households contribute to the difficulty in finding appropriate housing.

Homeless

Throughout the country, homelessness has become an increasing problem. Factors contributing to the rise in homelessness include the general lack of housing affordability to low and moderate income persons, increases in the number of persons whose incomes fall below the poverty level, reductions in public subsidy to the poor, and the de-institutionalization of the mentally ill.

The Orange County Homeless Issues Task Force estimates that there are at least 10,000-12,000 homeless people in the County, nearly half of whom are children under the age of five. While all of these people do not live on the streets, they all lack permanent shelter. A survey of close to 2,000 homeless persons seeking assistance, conducted by researchers from the University of California, Irvine, the County of Orange, local cities, and private non-profit agencies, identified 41 percent of the people had lived in Orange County for 10 years or more. Sixty-six percent of those surveyed responded that affordable housing is what is needed to "get back on their feet."

The 1990 Census did not identify any homeless persons in the City of Laguna Hills. According to the Laguna Hills' Sheriffs Department, however, a few homeless and transients are occasionally observed traveling through the City, and several have been observed staying in the area overnight in overgrown drainage channels.

Although homeless and transients are only occasionally identified in Laguna Hills, State Law requires that each jurisdiction provide adequate sites to facilitate the development of emergency and transitional shelters. In addition, the homeless problem in the County stems, in part, from the lack of suitable, affordable housing. Therefore, a comprehensive solution to the homeless problem requires every jurisdiction in the County to address the needs of the homeless.

While the shelter and service programs available to homeless people in Orange County are very good, there is an extreme deficit in services available. Presently, there are approximately 700 permanent shelter beds in the County, or a deficit of at least 9,300 beds. The majority of these shelters are located in the northern portion of the county. There are no homeless shelters in the City of Laguna Hills. The closest homeless shelter is the Friendship Shelter in Laguna Beach. This shelter provides housing, food, and referral services to enable homeless people to rehabilitate. In addition, there are a variety of homeless shelters located throughout Orange County (see Table IV-B-8).

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-8
Facilities in Orange County Serving the Homeless

Name	Persons/Groups Served	Location	Number of Beds
American Veterans Assistance Corp.	Veterans with families	Santa Ana	10
Anaheim Interfaith Shelter	Families	Anaheim	34
Anchor House	Families	San Clemente	14
Catholic Charities	Families	Santa Ana	18
Christian Temporary Housing	Families	Orange	60
Dayle McIntosh Center For The Disabled	Disabled Individuals/ Families with Disabled Members	Anaheim	7
Episcopal Service Alliance, Martha House	Women	Orange	10
Friendship Shelter	Individuals	Laguna Beach	22
House of Hope - O.C. Rescue Mission	Women & Children	Santa Ana	45
Irvine Temporary Housing	Families	Irvine	10 single family furnished apartments
Mercy House	Men	Santa Ana	12
Missionary Brothers of Charity	Families	Santa Ana	16
New Vista Shelter	Families	Fullerton	60
O.C. Rescue Mission	Men	Santa Ana	90
Orange Coast Interfaith Shelter	All	Costa Mesa	100
Salvation Army Hospitality House	All	Santa Ana	60
Shelter For The Homeless	Families, Men, & Women	Westminster	106
The Sheepfold	Women and Children	Tustin	55
The Villa Posada	Women	Santa Ana	6

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-8
Facilities in Orange County Serving the Homeless

Name	Persons/Groups Served	Location	Number of Beds
Thomas House Temporary Shelter	Families	Fountain Valley	Provides room for 7 families
YWCA - Hotel For Women	Women	Santa Ana	38

Source: Orange County Social Service Resource Directory (1991-1992); County of Orange Housing Element, 1989.

Farmworkers

The special housing needs of farmworkers stem from their low wages and the seasonal nature of their employment. The 1990 Census estimated that less than one percent of the population in Laguna Hills were farmworkers and approximately one percent in the entire County. Therefore, the demand for housing generated by farmworkers in the General Plan study area is estimated to be nominal, and can be adequately addressed by overall housing affordability programs present in the City and County.

HOUSING CONSTRAINTS

In planning for the development, maintenance and improvement of housing, constraints to housing development must be assessed. Many of these constraints cannot be mitigated by local government, particularly those related to the condition of the national and state economies, but others can be minimized in order to facilitate the provision of housing that is required to meet identified needs.

When analyzing constraints on the production of housing, it is important to distinguish between (1) unreasonable and excessive constraints and (2) other, sometimes conflicting, mandates placed by the state and federal governments on local municipalities; the realities of municipal finance; legitimate requirements needed to protect public health and safety; and required environmental impact mitigation. The City of Laguna Hills, while recognizing its mandate to facilitate the production of housing to meet the needs of all economic segments of the community, is also concerned about the quality of the living environment that is created, the integrity of the natural environment it is charged with managing, and the impacts that new housing will have on the area's roadway and infrastructure systems.

Governmental Constraints

State Housing Element Guidelines require that the Housing Element address those public actions that might constrain the maintenance, improvement or development of housing. The major constraints imposed by government are decreasing federal and state commitment to housing programs, conflicting local responsibilities, development standards and land use controls, fees, and processing time.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Federal and State Commitments

The emphasis placed by the Federal and State governments on housing policies and funding has traditionally shifted with changing administrations and priorities. However, there has been a clear trend to de-emphasize federal and state housing programs over the past decade. During this time, federal and state funding for housing programs has been sharply reduced. A concurrent reduction in state funding for housing occurred over the same time. This leaves local governments in California with a mandate to provide programs to facilitate housing for all economic segments of the community without access to funds to maintain such programs.

Given the budgetary problems being experienced by both the Federal and State governments, it is unlikely that increased funding for housing programs will be forthcoming in the near to mid-term future. It is possible, however, that remaining housing programs will face further reductions in funding.

Conflicting Responsibilities of Local Government

The mandate that local government facilitate the provision of housing for all economic segments of the community is but one of many, often conflicting, responsibilities. Included among these responsibilities is prudent fiscal management. To the extent that cities such as Laguna Hills are forced to rely on retail sales tax as a primary means of municipal income, conversion of existing and potential sales tax producing lands to use for affordable housing is not likely. It is well known that, generally, "housing does not pay for itself." Thus, the diversion of local property taxes from municipalities to school districts makes housing production, particularly low and moderate income housing, an increasingly negative fiscal impact for the City. The City of Laguna Hills cannot long sustain the negative fiscal impacts of new housing in an era of increasing State mandates for various local government programs.

General Plan

The General Plan outlines appropriate locations for each type of land use within the City of Laguna Hills, as well as the sphere of influence. The General Plan is the primary source for regulating residential densities, and also establishes overall policies for development related to land use compatibility, public services and facilities provision, open space provision, and environmental mitigation. The General Plan Land Use map includes several residential categories to ensure that a broad range of housing is maintained in the City in the future (see Table IV-B-9). Residential land uses constitute 66.2 percent of the total acreage in the City and its sphere of influence. Because the City is nearly built out and the General Plan reflects existing residential densities, there is little opportunity for new housing development, as previously noted. The General Plan does, however, provide new housing opportunities within a mixed use setting in the Village area.

The General Plan also includes a Growth Management Component designed to be consistent with the requirements of the County's Growth Management Program (Measure "M"). The Countywide program requires each City to adopt a growth management element as part of its General Plan. Specifically the City's element must establish a traffic level of service; provide a development mitigation program that ensures new development pays its share of growth impacts; and establishes a development phasing and annual monitoring program to ensure service goals are achieved. The growth management policies contained in the plan are required by the County for all municipalities, and in most cases document development policies that have been standard procedure. Constraints to the development of affordable housing, therefore, are minimal and at the most represent necessary requirements to ensure the development of the minimum needed public services to offset development impacts countywide.

CITY OF LAGUNA HILLS**DRAFT MASTER EIR**

Table IV-B-9
City of Laguna Hills General Plan Land Use
1993 (City and Sphere of Influence)

General Plan		
Land Use Designation	Density	Acres
Estate Residential	0-3.5 du/ac	1,150.55
Low Density	3.0-6.5 du/ac	931.95
Medium Low Density	6.5-12.5 du/ac	346.03
Medium Density	12.5-18 du/ac	104.05
High Density	18-30 du/ac	78.28
Village Commercial	F.A.R. designations equal to allowable designations plus an additional percentage as regulated by the established trip budget. ¹	206.10
Freeway commercial	0.40 F.A.R.	64.92
Community Commercial	0.35 F.A.R.	74.46
Office Professional	0.50 F.A.R.	21.40
Mixed Use	0.50 F.A.R.	298.40
Public/Institutional	1.0 F.A.R.	197.06
Park	Governed by Recreation purpose of the land	128.26
Open Space	Governed by open space purpose of the land, not intended for urban development	478.24
Total		4,079.7

Source: Planning Network, 1993

1. Additional information regarding the maximum intensity of development and related trip budgets for the Village Commercial land designation is included in the Community Development and Design Chapter.

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Zoning Regulations

Zoning regulates the use, density, setbacks, parking, and placement and mix of residential, commercial, and industrial developments to reflect community goals and objectives. Zoning also regulates the intensity of residential land use through minimum lot size requirements. Upon incorporation, the City inherited six planned community areas, a portion of Orange County's Aliso Creek Recreational Specific Plan, and areas that had been developed under conventional County zoning. Created as specialized zoning districts, the planned communities and specific plans establish development standards that are applied to a specific area. Each planned community is required to have written standards of development and an adopted development plan. Differences in density and specific development standards within each of the planned community areas have made the administration of subsequent development approvals cumbersome. Discussions with City Planning staff indicate additional code related difficulties including:

- Planning and zoning documentation provided by the County was not entirely complete, current, or well suited for use in City-level operations.
- The conventional zoning code, as applicable to the City, has too many separate residential zones that differ slightly between each other.
- Conventional zones have been further modified by obscure map codes that indicate variations in site development, uses, or development conditions that are described in various separate zoning actions.
- Zoning code sections and zoning provisions of existing planned communities make extensive reference to other codes sections that are often superseded or obsolete.
- Various general sections contain additional site development standards that are not properly referenced in major sections. Such organization makes it difficult to locate building site requirements, building line regulations, height limits, screening and landscaping, etc.

Although the existing zoning standards have not been a hinderance to new development, City staff have indicated that having so many different rules for development in the City creates need for additional review time. In response to these code related issues, City staff is currently working on the development of a comprehensive zoning code and planning information system. This system will include the basic maps and statistics, zoning provisions and miscellaneous zoning provisions and procedures that will be necessary to increase efficiency and reduce processing constraints.

In addition, the City has adopted the County's system of discretionary actions and procedures which include the permit types described in Table IV-B-10.

As part of the project review and approval procedures, the City frequently recommends conditions of approval for General Plan amendments, zone changes, discretionary permits (e.g., use permits, site plans, etc.) and subdivision maps. These conditions are imposed in accordance with state law and City policy, and address matters of public concern on a project by project basis. These development conditions are to be reviewed on a regular basis as part of the General Plan Review and Update Program (see General Plan Implementation and Monitoring Program) to ensure that they are being reasonably related to the use for which the property is intended.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-10
City of Laguna Hills
Discretionary Permits 1993

Permit Type	Description	Development Review Schedule
Feature Plans	The purpose of Feature Plans is to conceptually describe a proposed development for a large area and to describe how environmental and land use issues of special concern will be addressed.	It is not anticipated that any residential Feature Plans will be processed due to the near built-out status of the City's residential areas.
Area Plans	Area Plans are similar to Feature Plans except that an area plan contains more detailed information and addresses a smaller area.	It is not anticipated that any residential area plans will be processed due to the near built-out status of the City's residential areas.
Use Permits	Use Permits provide for public review of detailed final plans for a proposed use.	Processing time for a use permit is approximately 3-4 months.
Site Development Permits	Site Development Permits provide administrative review of development plans for a proposed use.	An administrative site development permit takes 3-4 weeks to review. A Planning Commission site development permit takes 2-3 months to review.
Variance Permits	Allows for alterations to the adopted zoning standards to conform to constraints which are unique to a specific development site.	An administrative variance takes 3-4 weeks to review. A Planning Commission variance takes 2-3 months to review.

Source: City of Laguna Hills Zoning Ordinance, as adopted 1991.

In addition to site development standards, the Laguna Hills zoning ordinance contains the following ordinances which affect land use within the City.

- Condominium Conversion Use Permit: requires a use permit and condominium conversion program for the conversion of existing residential units to condominiums. The conversion program must detail how affordable housing will be achieved, and analysis of the balance of housing in the City, vacancy rates, and a relocation plan.
- Affordable Housing Incentive Use Permit. This ordinance facilitates housing developments where at least 50 percent of the dwelling units are for senior citizens.
- Affordable housing Incentive Use Permit procedure (Section 7-0-140 of the Laguna Hills Zoning Code). The purpose of this ordinance is to permit deviations from site development standards that provide flexibility for builders in order to deliver a more affordable housing product.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Implementation measures included in the General Plan Implementation Program provide for a reconciliation of the above described zoning standards adopted by the City upon incorporation into a comprehensive development code which incorporates the individual development standards within each planned community.

Building Codes and Enforcement

Building codes regulate new construction and rehabilitation, and are designed to ensure adequate protection against fire, structural collapse, unsanitary conditions, and other safety hazards. Laguna Hills has adopted and enforces the Uniform Building Code (UBC), and has adopted local amendments to statewide codes. On October 13, 1993, the City of Laguna Hills adopted ordinance 92-17, which adopted by reference the 1991 State Uniform Building Code, the 1991 Uniform Building Code Standards, 1991 Uniform Plumbing Code, 1991 Uniform Mechanical Code, 1991 Uniform Housing Code, 1991 Uniform Code for the Abatement of Dangerous Buildings, 1991 Uniform Building Code for Solar Energy Installations, 1990 National Electrical Code, and 1991 Uniform Administrative Code Provision for the National Electrical Code, 1991 Uniform Swimming Pool, Spa and Hot Tub Code. These codes establish the minimum construction standards as applied to all residential buildings. The UBC establishes minimum construction standards for residential and other types of development; although cities can adopt stricter standards, they cannot reduce standards. Thus, the City of Laguna Hills is precluded from revising its building codes as a means of reducing construction costs. However, building costs do not appear to be unduly increased through local building codes, although state energy conservation regulations, which are cost effective in the long run, may add to construction costs.

Since most of the housing in the City is less than 25 years old, the existing housing within the City does not appear to exhibit any quality problems. Code enforcement in the City is handled on a call-in and complaint basis. The Building Department will inspect buildings for code violations and make the owner aware of necessary improvements. There does not appear to be a need to expand present code enforcement activities as evidenced by the lack of a significant housing quality problem.

Fees and Exactions

The role that fees play in constraining the production of housing is difficult to measure, although they can affect housing prices in certain markets. The theory behind fees is that new development should bear its own costs, and that these costs should be spread as equitably as possible. State law requires that fees bear a reasonable relationship to the actual costs incurred by the City. Even so, fees may add significantly to the cost of a housing unit. Fees are collected by the City to defray the costs of permit processing, inspections, environmental review, and to contribute to the construction of facilities and delivery of services such as water, sewer, storm drains, and parks and recreation, and other social services.

The Building Industry Association of Southern California completed a development fee survey for Orange County Cities in February 1993. Cities who participated in the survey were asked to identify fees in the context of a hypothetical 50-home detached subdivision. The results of this survey concluded that fees charged by the City of Laguna Hills are comparable with those of surrounding jurisdiction (see Table IV-B-11).

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-11
Comparison of Development Fee Schedules

Fee Category	Cost Per Unit				
	City of Laguna Hills	City of Laguna Niguel	City of Lake Forest	City of Laguna Beach	City of Mission Viejo
Environmental					
Initial Determination	3,000 dep/hrly*	N/A	3,000 dep/hrly	N/A	N/A
Negative Declaration	N/A	N/A	N/A	\$2	\$310
EIR Processing	5,000 dep/hrly	\$54	5,000 dep/hrly	\$15	\$34
Environmental Review	N/A	\$34	N/A	N/A	N/A
Categorical Exemption	N/A	N/A	N/A	\$1	\$34
Planning					
General Plan Amendment	5,000 dep/hrly	\$130	5,000 dep/hrly	\$20	\$21
Zone Change	5,000 dep/hrly	\$32	\$5,000 dep/hrly	\$20	\$21
Tentative Tract Map	7,500 dep/hrly	\$59	7,500 dep/hrly	\$336	\$79
Site Plan Review	N/A	\$43	4,400 dep/hrly	\$40 \$150	\$21
Tentative Parcel Map	N/A	N/A	N/A	N/A	\$42
Area Plan	N/A	N/A	N/A	N/A	\$14
Building					
Building	\$1,376	\$12,260	\$965	\$865	\$1,433
Plan Check	\$894	\$882	\$231	\$658	Included
Electrical	Included	Included	Included	\$96	Included
Mechanical	Included	Included	Included	\$17	Included
Plumbing	Included	Included	Included	\$17	Included
Engineering & Subdivision					
Final Tract Map	N/A	\$67	972 dep/hrly	\$30	N/A
Sewer	\$56	\$56	\$56	\$59	\$77 per agency schedule
Water	\$72	\$72	\$72	\$50	\$89 per agency schedule

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-B-11
Comparison of Development Fee Schedules

Fee Category	Cost Per Unit				
	City of Laguna Hills	City of Laguna Niguel	City of Lake Forest	City of Laguna Beach	City of Mission Viejo
Engineering & Subdivision (Cont'd)					
Storm Drain	\$18	\$18	\$18	\$74	\$92
Street	\$286	\$286	\$286	\$250	\$25
Grading	\$127	\$1,800	\$127	\$19	\$71
Capital Facilities & Connections					
Transportation Corridor	\$814 \$1,607	\$2,822	\$814 \$1,607	\$0	\$1,706
Coastal Area Road Improvements	\$1,384	\$834 \$1,384	N/A	N/A	N/A
Foothill Circulation Phasing Plan	N/A	N/A	\$319 \$1,566	N/A	\$1,560 \$2,740

Source: BIA Land Development Fee Survey, 1992-1993

Note:

* dep/hrly = deposit per hourly.

Figures are rounded to the nearest dollar.

Where a range is used, the actual figure depends upon location and unit type.

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Non-Governmental Constraints

Developers' Market Perceptions

Developers generally design their projects to attract a specific market segment. This market segment is selected based on their *perception* as to how they might maximize the profitability and sales rate of their project. In general, upper end housing provides greater opportunities for profit than does middle end or "affordable" housing projects. In addition, developers often provide amenities over and above the minimums required by a City's zoning, subdivision, or building codes. These amenities add to the cost of housing; however, it is not reasonable for the City to prevent developers from providing amenities beyond those required by the City or from imposing more stringent standards such as lower than maximum allowable densities.

Availability of Developable Land for Low and Moderate Income Housing

The City of Laguna Hills has very few vacant parcels of land available for urban residential use that could be developed without creating significant adverse environmental impacts. The uncommitted open space parcels that do exist within the City represent improved lots within established neighborhoods and lands possessing a wide variety of significant environmental features. These environmental features include sensitive biological habitats and habitat linkages, steep hillsides and canyons, intermittent wetland areas, and others. The majority of lands that are suited to development (i.e., flat areas with few significant environmental features) represent existing residential parcels within established neighborhoods or are located within high noise hazard areas, areas that are currently impacted by high traffic generating land uses, and are not suitable for residential uses (see Opportunities for the creation of new housing). In addition, available residential vacant parcels are located in developments that have approved development agreements and have provisions that do not allow future increase in density or intensity. Apart from the existing residential infill parcels, these lands generally have commercial or business park development project approvals, vesting tentative maps, or development agreements, and are not therefore available for conversion to residential use within the next two to ten years.

Further, retention of commercial and business park lands in non-residential use is necessary to increase local employment opportunities and reduce vehicle miles traveled within the City, thereby achieving consistency with the South Coast Air Quality Management Plan.

Because most commercial and business park uses within Laguna Hills are relatively new, opportunities for converting existing developed commercial and business park lands to residential use is limited. The cost of purchasing viable commercial or business park buildings for residential development would be prohibitive, and would result in significant long-term negative fiscal impacts for the City. In addition, these existing commercial and business park uses do not exhibit any signs of blight and therefore are not eligible for recycling through redevelopment activities.

Land and Construction Costs

Land and construction costs are a significant component in the cost of housing. Land costs are a function of the private market and are relatively high due to the City's location near major employment centers. Due to the built out nature of the City, vacant land available for the development of affordable housing projects is nearly nonexistent, and cannot be directly compared to surrounding jurisdictions. Construction costs are also set by the private market and are influenced by a variety of factors including the availability and price of materials and labor, the quality of construction and the amenities offered.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The cost factors used by the City of Laguna Hills to estimate cost of new housing, are as follows:

Apartment Houses

Masonry	\$56.00 per square foot
Wood Frame	\$49.80 per square foot

Single Family Dwellings

Masonry	between \$59.90 per square foot for average and \$76.90 for good.
Wood Frame	between \$51.50 per square foot for average to \$72.90 for good.

Availability and Cost of Financing

Financing costs, for the most part, are not subject to local influence. The control of interest rates is determined by national policies and economic conditions. Interest rates directly influence the buying power of home buyers as well as the cost of home construction, through construction loans. Currently, interest rates are at their lowest level in 22 years, which has made homes affordable for a larger portion of the population. In recent years problems in the banking industry have led many lending institutions to adopt more conservative lending criteria for construction loans, especially for multiple family housing. These factors have influenced the supply of housing throughout Southern California.

Environmental

Like the entire Southern California region, the General Plan study area is located within a region of high seismic activity. The potential for strong groundshaking should be accommodated in building design, and is addressed in the Geologic and Seismic Section of this Report.

Infrastructure

The infrastructure of critical importance to the maintenance of existing and development of new housing includes water facilities, sewerage facilities, streets, sidewalks, and curbs. The provision and maintenance of these facilities in a community enhances not only the character of the neighborhood but also serves as an incentive to homeowners to routinely maintain and keep up their homes. In the alternative, when these public improvements are left to deteriorate or they are over-extended in use, the neighborhoods in which they are located become neglected and usually show early signs of deterioration.

Nearly all of the City's existing residential land has been developed or is committed for development. Infrastructure to accommodate these existing developments is already in place. Any expansion to the residential land inventory would have to take place in areas peripheral to existing residential neighborhoods. Such expansion, if it occurs, should be accompanied by adequate provision of infrastructure support.

Jobs/Housing Balance

The issue of jobs/housing balance has been promoted as a mechanism to reduce congestion and air pollution and as a way for cities to plan for a balanced community with job and housing opportunities for everyone. The jobs/housing balance is a ratio that shows the number of jobs in the community per household. As of July, 1993 the City of Laguna Hills has 8,190 housing units and employment of 12,225. This calculates to a jobs/housing ratio of 1.49, or 1.49 jobs per housing unit. The

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Southern California Association of Governments (SCAG) has identified the "ideal" jobs/housing ratio as 1.2 jobs per household. Therefore, the City of Laguna Hills qualifies as slightly "job-rich." The City is also located within a regional area that is also "job-rich." However, it should be noted that Laguna Hills is noted for its balanced land use distribution and sound fiscal condition.

State law requires that the Housing Element include an inventory of land that is suitable for residential development. The purpose is to compare the total holding capacity with the locality's projected construction needs during the time frame of the Housing Element (1994-1996)¹. The locality can then determine if additional actions will be needed to provide sufficient sites to accommodate its need for new housing. Table IV-B-12 below provides a summary of the available sites for housing within the City of Laguna Hills (see also Figure IV-B-1, Inventory of Available Residential Land by Zoning Designations). All sites are fully improved and are adjacent to master planned infrastructure. One additional vacant parcel currently owned by the Saddle Back Valley Unified School District and zoned for Residential Hillside Estates was also considered but rejected since the District has plans to develop an Elementary School on the parcel.

Table IV-B-12
Inventory of Available Residential Land
City of Laguna Hills
1993

General Plan study area	Available Vacant Lots/Land	Maximum Number of Units Allowed	Location
Single Family	19 Lots ¹	(RHE) Minimum 8,000 sq. ft. lots	Nellie Gail Ranch
	59 Lots ¹	(PC) 78 units	Moulton Ranch
Multi-Family ²	NA	NA	NA
Total	78		

Source: Planning Network, 1994.

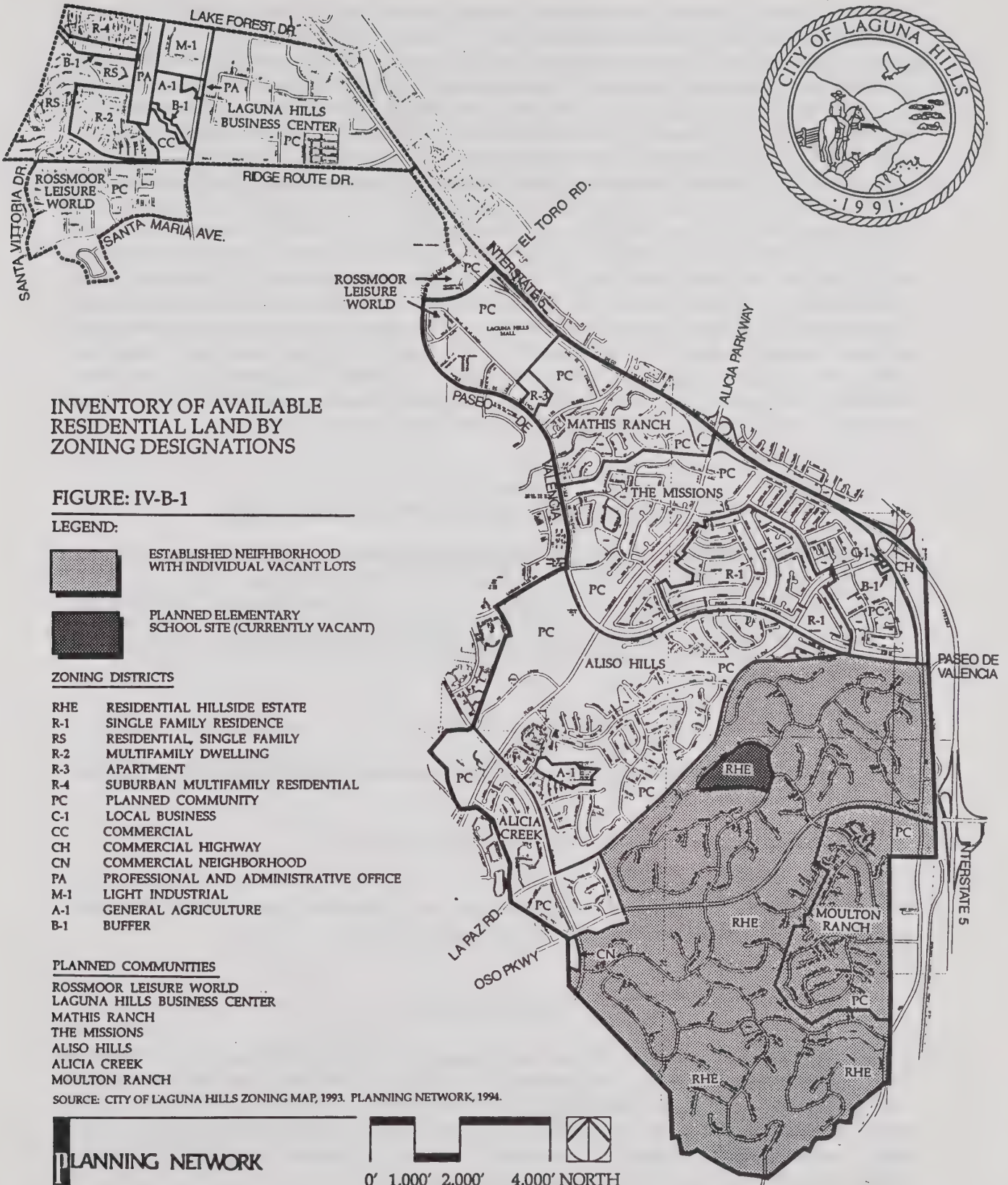
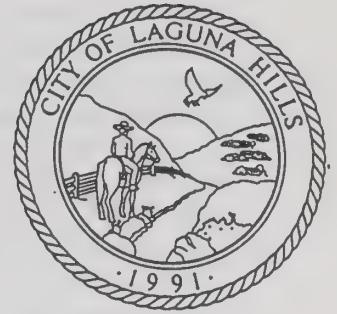
¹ Represents vacant finished lots in established residential neighborhoods.

² There are no vacant multi-family parcels within the City.

¹ AB 2172 amended Government Code Section 65588 extending the planning period within the Southern California Association of Governments (SCAG) region from 1994 to June 30, 1996.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

As is described in the Housing Element, there is currently no vacant land available within the Laguna Hills city limits for the production of multiple family housing. Because the majority of development in the City is less than 30 years old and was developed under strict development agreements, which limit increases in intensity, the potential for rehabilitation of either old or underutilized development does not exist. Thus, if the City is to create any new housing that is affordable to low and moderate income households, it will need to result from the intensification of existing development. As part of the formulation of the Housing Element and the land use portion of the Laguna Hills General Plan, a review was undertaken of housing opportunities within existing developed lands. The Village area in the northern portion of the existing City was identified as the most appropriate location for new housing opportunities. Thus, land use and housing policies are aimed at creating new housing opportunities within existing multifamily projects in the Urban Village area. Because the lands within the Village area are already developed, it is believed that attached dwellings at a moderate density (12-20 units per acre) can be produced so as to be affordable to low and moderate income households since the cost of land would already have been amortized against current multifamily development, and since the new housing would be in addition to the value of existing development. Since new development within the Village area must meet a strict "trip budget," the potential for new units is limited to a maximum of 15 percent increase from the existing conditions (see Table IV-B-13). Such an increase would allow for an additional 113 multifamily units to be constructed.

Table IV-B-13
Urban Village Maximum Residential Development Intensity

Traffic Zone	Acreage	Existing Development	Maximum Increase in Development Intensity ¹	Total Maximum Development Intensity
620	2.0	540	81	621
621	11.0	216	32	248
Total	31.0	756	113	869

Source: Planning Network, 1994.

¹ Based on a 15 percent increase in development intensity.

Given the 78 residential lots that are currently vacant, the 113 units that could be developed within the Village brings the total potential sites for housing to 191 units.

PROJECT IMPACTS

Impacts of future development on housing are discussed in the Housing Section of the Community Development and Design chapter of the General Plan. Build out of the study area consistent with the General Plan will result in the eventual construction of a maximum of 504 new dwelling units, for a total of 10,745 dwelling units. At build out the housing stock will consist of approximately 1,150 acres of estate density, 932 acres of low density, 419 acres of medium-low density, 52 acres of medium density, and 57 acres of high density residential uses.

March 31, 1994

MITIGATION MEASURES

Mitigation for impacts associated with the increase in the number of dwelling units within the General Plan study area are related to Circulation/Transportation, Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, Hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.

C. LAND USE

EXISTING SETTING

Residential

Residential development is the predominant land use type in the General Plan study area, comprising 66.9 percent of the total General Plan study area. The varied topography within the community lends itself to single family development with a curvilinear street pattern, with either large lot equestrian development or traditional urban densities along minor ridgelines, and significant amounts of open space preserved in adjacent hillside or canyons. Multiple Family development is clustered at the edges of single family neighborhoods at or near major arterial streets and local shopping centers within the incorporated portion of the General Plan study area, or in the northwestern portion of the City's annexation area (see Existing Land Use Map at the end of the Master EIR).

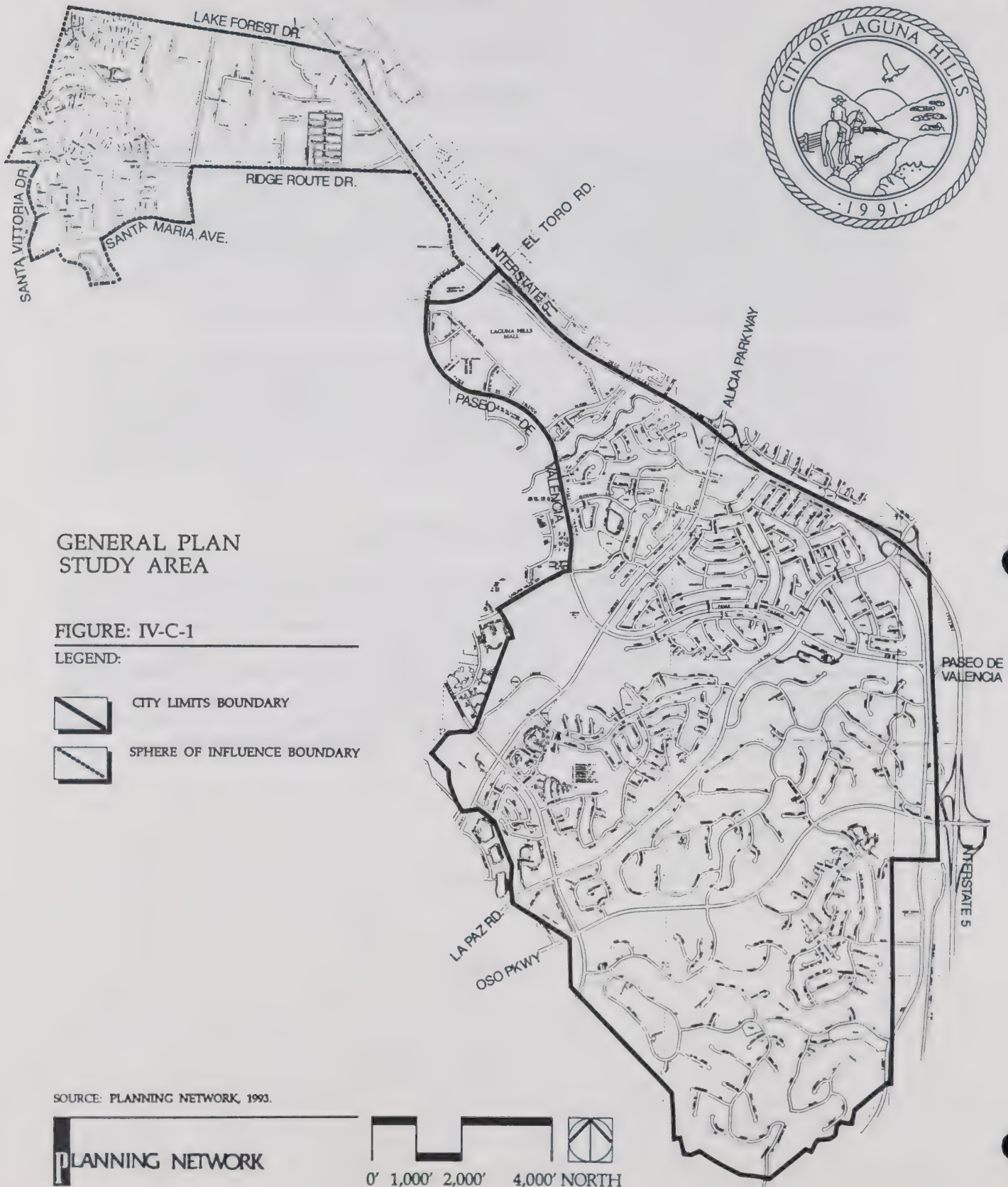
The residential character of the community can be attributed to the several planned communities that were developed throughout the General Plan study area prior to incorporation (see Figure IV-C-1). Apart from the Nellie Gail Ranch development, very few areas in the City were developed without the adoption of planned community guidelines and standards. The Nellie Gail Ranch development, which was developed with a strong equestrian theme orientation, is the dominant residential area within the General Plan study area.

Nonresidential Development

As can be seen on the Existing Land Use Map (included in a map pocket at the end of the Master EIR), the City has a very well defined pattern of nonresidential land uses. Regional commercial and office uses have been developed in the northern portion of the General Plan study area to take advantage of regional freeway access, visibility, and activity generated by the Laguna Hills Mall. Community commercial and office developments are clustered at the intersection of major arterial streets throughout the City close to the surrounding neighborhoods that they serve. Employment generating land uses are focused in and around the Laguna Hills Mall, the Saddleback Memorial Medical Center and, to the north, the Laguna Hills Business Center Planned Community.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Open Space

Currently, there are 675 acres of open space used for public and private parks, landscape easements, and drainage facilities within the General Plan study area. Although this accounts for 16.5 percent of the overall land use, only about 78 acres has been dedicated for recreational use (see Table IV-C-1). Nearly all vacant land in the General Plan study area has been developed, is in the process of being developed, or has been reserved for public safety or environmental mitigation. A complete breakdown of open space areas, indicating the location and specific uses of each area, is included in Appendix G of the Master EIR.

Table IV-C-1
Existing Land Use

Land Use	City of Laguna Hills		Sphere of Influence		Total General Plan Study Area	
	Acres	Percent	Acres	Percent	Acres	Percent
Single Family	2,295.87	69.0	127.0	16.8	2,422.87	59.3
Multi-Family	134.53	4.0	174.9	23.1	309.43	7.52
Commercial	220.80	6.7	129.0	17.1	349.8	8.6
Office	27.5	0.8	68.8	9.1	96.3	2.4
Industrial/Business Park	0.0	0.0	154.3	20.4	154.3	3.8
Public Facilities	20.6	0.6	0.0	0.0	20.6	0.5
Recreation	51.96	1.6	26.0	3.5	77.96	1.9
Commercial Recreation	11.6	0.3	—	—	11.6	0.28
Schools	91.6	2.8	10.0	1.3	101.6	2.5
Open Space	470.24	14.2	65.0	8.7	535.24	13.2
Subtotal	3,324.7	100.0	755.0	100.0	4,079.7	100.0

Source: Planning Network, 1993.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

EXISTING LAND USE POLICY AND REGULATIONS

Orange County General Plan

Immediately after incorporation, the City of Laguna Hills adopted Ordinance No. 1, on December 20, 1991, which adopted all County ordinances in effect at the time of incorporation for a period of 120 days. This Ordinance was subsequently amended by Ordinance 92-6, on March 10th, 1992, and finally by Ordinance 92-11 on June 25th, 1992, both of which amended the original ordinance adoption to permanently adopt the County ordinances until such time as they were superseded. As part of the adoption of these ordinances, the City adopted the Orange County Zoning Code for the regulation of land use in the General Plan study area until the completion of the City's first General Plan. The Orange County General Plan, although not specifically adopted in its entirety by the City, is referenced in the adopted Zoning regulations as the land use policy document at the time of incorporation.

The Orange County General Plan describes the objectives, policies and land use pattern that were used prior to the City's incorporation for those areas within the city limits, and provides current policy in the unincorporated portions of the General Plan study area. The Element is divided into five chapters outlining the purpose and scope of the Element, existing land use conditions, description of the objectives and land use plan, projected deficiencies and constraints, and implementation policies.

The Orange County General Plan divides the County into 24 smaller General Plan study areas called Community Profile areas. These Community Profiles, although not as comprehensive as the overall County General Plan, are used by the County in assessing the detailed infrastructure capabilities and individual project consistency with the County General Plan. Each Community Profile contains maps, statistical information and text depicting existing and proposed land uses, growth projections and development constraints and opportunities for each Profile area.

Prior to incorporation, the City portion of the General Plan study area was included in Community Profile numbers 62 and 63, which also included the unincorporated areas of Aliso Viejo and Leisure World. The City's sphere of influence is included in Community Profile Area 62.

In order to have a better understanding of how these policies have affected land use in the General Plan study area, descriptions of the existing General Plan categories and related Community Profile categories have been shown in Table IV-C-2 and Figure IV-C-2.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-C-2
Orange County General Plan Land Use Designations
Used within the General Plan Study Area

General Plan Designation	Applicable Profile Designations Contained within the General Plan study area
1B Suburban Residential	
These areas are characterized by a wide range of housing types, from estates on large lots to attached dwelling units (townhomes, condominiums and clustered arrangements). This category permits the greatest flexibility for residential development. Additional density guidance is provided by the Community Profiles.	1.3 Medium Low Density (2.0-3.5 du/ac)
	1.4 Medium Density (3.5-6.5 du/ac)
	1.41 Medium Density (3.5-5.0 du/ac)
	1.5 Medium High Density (6.5-18 du/ac)
	1.51 Medium High Density (6.5-12.5 du/ac)
1C Urban Residential	
This category is applied to areas where intensive residential development is compatible with surrounding urban development. Development within this category is characterized by intensive residential uses such as apartments, condominiums, townhomes, and clustered residential units.	1.6 High Density (18.0+ du/ac)
2A Community Commercial	
This category designates land for commercial development which provides a wide range of facilities for convenience goods and retail trade, including tourist recreation businesses and community services (i.e., child care facilities). Generally, community commercial development is limited in scope to approximately 10 to 40 acres, and is intended to serve a market area exceeding 20,000 persons. Supermarkets, restaurant, movie theaters and banks are typical tenants of a community commercial center.	2.1 Community Commercial

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-C-2
Orange County General Plan Land Use Designations
Used within the General Plan Study Area

General Plan Designation	Applicable Profile Designations Contained within the General Plan study area
2B Regional Commercial	
This category identifies major, high-intensity commercial activities requiring centralized locations in order to serve large urban populations at the regional or subregional level. Regional commercial centers generally range between 75 and 125 acres in size and serve a market area in excess of 100,000 persons. Normally, tenants within a regional center include major department stores and specialty shops. Child care facilities will be permitted, if appropriate.	2.2 Regional Commercial
3 Employment	
This category identifies areas intended for use by employment generators, usually light and service industries or professional-administrative office uses. These activities are characterized by few nuisance or hazard problems. It is intended that the locations of individual employment facilities be compatible with one another and with surrounding areas. Employment generators and commercial uses should locate together in well-defined urban activity centers. Child care facilities will be permitted, if appropriate.	3.1 Industrial Park
4 Public Facilities	
This category identifies major facilities built and maintained for public use. Included are civic buildings, airports, junior colleges, military installations, correctional institutions, hospitals, solid waste facilities, water facilities, and sewer facilities. Child care facilities will be permitted, if appropriate.	Currently there are no 4 categories in the General Plan study area.
5 Open Space	
This category is intended to reflect and enhance the Resources and Recreation Elements of the General Plan. This category identifies lands of notable scenic and natural attraction, and areas of ecological, cultural, historical and recreational significance. In addition, lands containing non-renewable and renewable resources will be designated Open Space on the LUE Map. Examples of such lands include extractive mineral sites, petroleum resource areas, prime agricultural soils, and water resource areas.	5.1 Other Open Space 5.2 Recreation

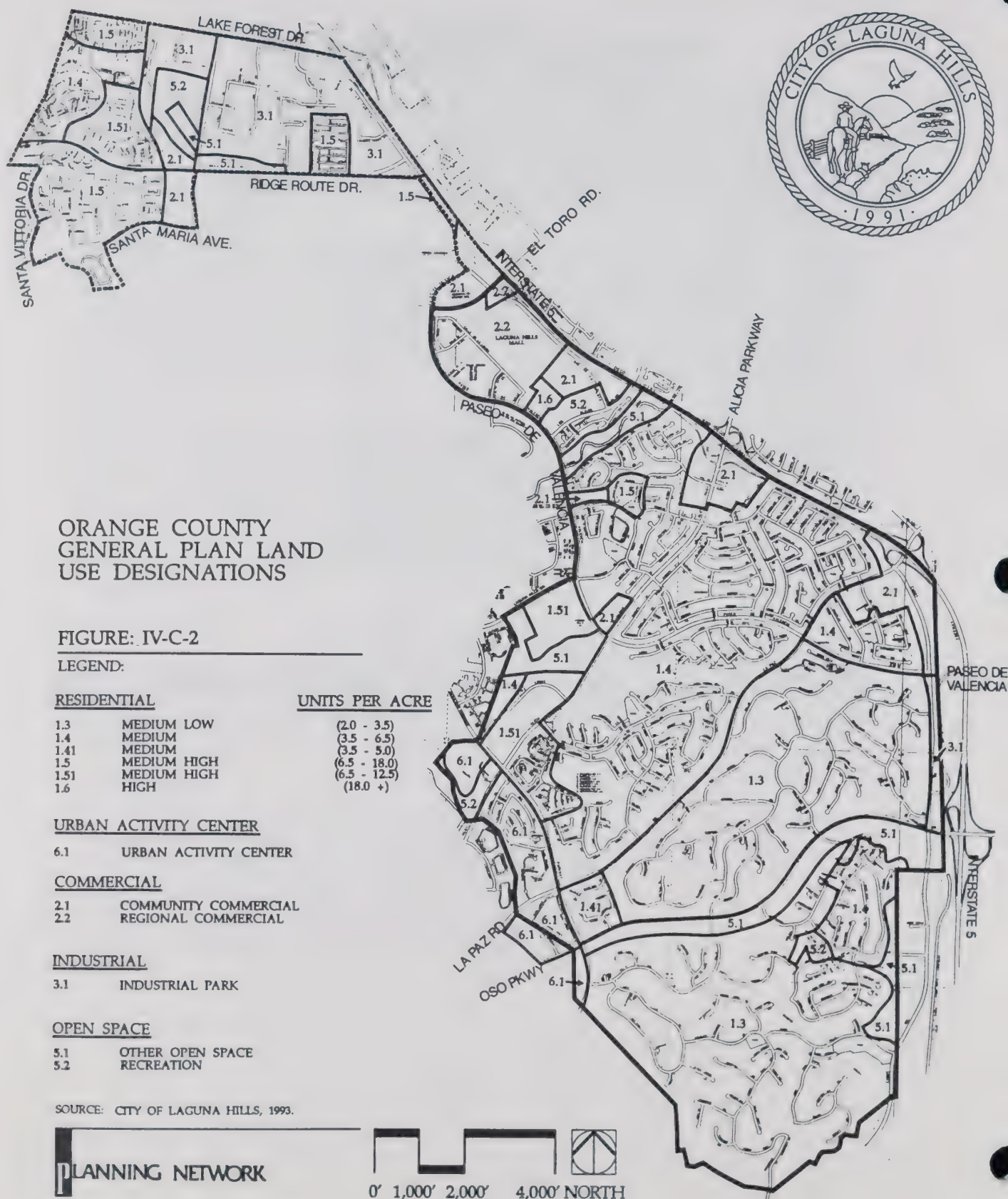
CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-C-2
Orange County General Plan Land Use Designations
Used within the General Plan Study Area

General Plan Designation	Applicable Profile Designations Contained within the General Plan study area
6 Urban Activity Centers	
This category identifies locations intended for high-intensity mixed-use development. Approximate land use include, but are not limited to, residential, commercial, office, industrial park, civic, cultural, educational facilities, and child care facilities. This category is intended to facilitate a more efficient use of existing and future transportation systems, conserve energy resources, and develop residential densities that enhance the ability to provide affordable housing. Urban Activity Centers are characterized by a diversity of housing opportunities including owner-occupied, rental, and affordable units with an emphasis on higher-density development; the vertical and horizontal mixing of retail, office and residential uses; the development of mid-rise structures accommodating both residential and employment activities; and the inclusion of cultural, civic, educational and urban recreational uses promoting both daytime and evening activities. Urban Activity Centers are located adjacent to major transportation corridors and are accessible to public transit facilities. A goal of this category is to foster around-the-clock activity by encouraging the mixing of activities, thereby reducing the impacts on the transportation system.	6.1 Urban Activity Centers

Source: Orange County General Plan, 1991.



March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Laguna Hills Zoning Designations

As an interim step to the development of local regulations, the City adopted the County zoning and development regulations in effect at the time of incorporation applicable to the General Plan study area. Currently, there are 16 zones designated in the General Plan study area (Figure IV-C-3). The majority of the land within the General Plan study area is zoned Planned Community (PC), within which individual development regulations and standards have been adopted. The existing zoning districts adopted by the City are described in Table IV-C-3.

Table IV-C-3
County of Orange Zoning Designations - Laguna Hills

RHE	<i>Residential Hillside Estate District.</i> Provides for low-medium density single-family residential neighborhoods in hillside areas in such a manner that they may be compatible with areas of steep irregular terrain. Minimum 8,000 sq.ft. lots.
R-1	<i>Single Family Residence.</i> Provides for medium density single-family detached residential neighborhoods. Minimum 7,200 sq.ft. lot size.
RS	<i>Residential, Single Family District.</i> Provides for medium density single-family attached or detached residential neighborhoods in which flexibility of development and optimum utilization of each building site are featured.
R-2	<i>Multifamily Dwellings District.</i> Provides for very high density multifamily residential neighborhoods with a low building height and a minimum amount of open space.
R-3	<i>Apartment District.</i> Provides for very high density multifamily residential neighborhoods with taller buildings and a minimum amount of open space.
R-4	<i>Suburban Multifamily District.</i> Provides for high density multifamily residential neighborhoods with a moderate amount of open space.
PC	<i>Planned Community District.</i> Provides the authority, regulations and procedures whereby large land areas can be planned, zoned, developed and administered as individual integrated communities. It is intended that each planned community will be planned so as to take advantage of its location, environment, and physical features. Each individual planned community is expected to establish its own character in conformance with its own unique set of land use regulation, consistent with the enabling regulations and procedures set forth in this district.
C-1	<i>Local Business District.</i> Provides for the development and maintenance of medium intensity commercial uses serving the needs of both the surrounding neighborhood and the community. Provides for all commercial uses.
CC	<i>Commercial Community District.</i> Provides for the development and maintenance of high intensity commercial uses that serve the local community and are compatible with surrounding residential uses.
CH	<i>Commercial Highway District.</i> Provides for the development and maintenance of medium intensity commercial uses that serve the needs of the motoring public in the local community and the regional area. It is intended to provide an environment that will take advantage of the superior access afforded by freeways and highways without undue detrimental effects on traffic flow or safety.
CN	<i>Commercial Neighborhood District.</i> Provides for the development and maintenance of low intensity commercial uses that serve the immediate needs of the surrounding neighborhood. Such uses are to be grouped in small areas of 3 to 8 acres and designed so that adverse impacts on residential properties are minimized.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-C-3
County of Orange Zoning Designations - Laguna Hills

PA	<i>Professional and Administrative District.</i> Provides for the development and maintenance of an optimal environment for moderate intensity professional and administrative office uses and related uses on sites with large landscaped open spaces and off-street parking facilities. This district is intended to be located on heavily traveled streets or adjacent to commercial or industrial districts, and may be used to buffer residential areas.
M-1	<i>Light Industrial District.</i> Provides for the development and maintenance of light industrial uses and industry-supporting activities that tend to promote the vitality of light industrial areas by providing a convenient location for the services incidental to the conduct of business of the permitted uses, thus internalizing vehicle trips for such services.
A-1	<i>General Agriculture District.</i> Provides for agriculture, outdoor recreational uses, and those low intensity uses that have a predominately open space character. It is also intended that this district may be used as an interim zone in those areas that the General Plan may designate for more intensive urban uses in the future.
B-1	<i>Buffer District.</i> Provides open space areas for the purpose of 1) buffering two areas of use that are incompatible, or 2) preserving an area with unique or sensitive environmental features, or 3) linking other open space areas, or 4) shaping urban form. Normally, such areas would be narrow strips or small plots of land.

Source: County of Orange Zoning Code, 1991, City of Laguna Hills Planning Department, 1993.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

Major Planned Community Developments

There are currently eight major development projects within the General Plan study area that have been designated as Planned Community projects. These projects comprise approximately 52 percent of the City's overall land use area.

Each of the Planned Communities was approved and developed prior to the City's incorporation through implementation of Area Plans and Site Plan approvals. Each Planned Community also contains a set of unique development standards. A description of land uses within each of the Planned Community developments is included as follows:

- ***Rossmoor Leisure World (Annexation Area):*** This project is located in the northwestern part of the General Plan study area within the City's adopted sphere of influence and proposed annexation area. The development is bounded by Ridge Route Road on the north, Santa Maria Avenue on the south, Moulton Parkway on the east, and the boundary of the sphere of influence on the west (see Figure IV-C-3).

This 226-acre Planned Community was part of the larger Leisure World Planned Community originally approved in the early 1960s. This area, however, is not included in the gated and age restricted Leisure World development directly to the south and outside the General Plan study area. The Planned Community area includes condominium development, apartments, and an age restricted apartment tower. A commercial parcel is also located at the corner of Santa Maria Avenue and Moulton Parkway.

- ***Rossmoor Leisure World (Laguna Hills Mall):*** The development of the Laguna Hills Mall and Saddleback Memorial Hospital give the area its notoriety. This area was also developed as part of the Rossmoor Leisure World Planned Community development plan. The Mall and its surrounding regional commercial uses are located in the northern part of the incorporated General Plan study area. This area is bounded by El Toro Road on the north, Los Alisos Boulevard on the south, Paseo de Valencia on the west, and the I-5 freeway on the east (see Figure IV-C-3).

Uses within this 140-acre Planned Community development include the Laguna Hills Regional Mall, Saddleback Memorial Hospital, and several banks, medical, and professional offices.

- ***Laguna Hills Business Center:*** This project is located in the northern most part of the General Plan study area within the City's adopted sphere of influence and proposed annexation area. The center is bounded by Lake Forest Drive on the north, Ridge Route Road on the south, the I-5 Freeway on the east and Moulton Parkway on the west (see Figure IV-C-3).

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Although designed primarily as a business park development, this 254-acre development also includes the Laguna Hills Mobile Estates development. In addition, the center includes a variety of commercial and office uses, as well as a multi-level hotel. A small lake that functions as both an open space and drainage control facility, and that links up with the adjacent project, has been constructed as part of the overall development plan and included as an amenity.

- **Mathis Ranch:** The Mathis Ranch planned community is located in the central portion of the General Plan study area along the I-5 freeway just west of Alicia Parkway and north of Paseo de Valencia (see Figure IV-C-3). Land uses with this 161-acre project include commercial, office, residential, and open space. The project is fully developed with several different residential densities and development types. A portion of Aliso Creek traverses the development and functions as an open space feature.
- **The Missions:** The Missions Planned Community is located between the Mathis Ranch and Aliso Hills Planned Communities. The Missions is bounded by Mathis Ranch to the north, Paseo de Valencia to the south and east, and the I-5 Freeway to the east (see Figure IV-C-3).
- **Aliso Hills:** The Aliso Hills Planned Community is located north of La Paz Road and Moulton Parkway, south of Paseo de Valencia, and east of the City boundary (see Figure IV-C-3). In addition to residential and commercial acreage, this planned community includes the Laguna Hills High School. Originally approved by the County in 1975, the project is now completely developed.
- **Alicia Creek:** The Alicia Creek Planned Community is located north of Oso Parkway, south and east of the City boundary, and west Moulton Parkway (see Figure IV-C-3). Originally approved by the County in 1984, the project is now completely developed.
- **Moulton Ranch:** The Moulton Ranch Planned Community is located north and east of the Nellie Gail development, south of Oso Parkway, west of the city limits (see Figure IV-C-3). Originally approved by the County in 1987, this development is now nearing completion.

Future Annexation Areas

Upon incorporation, the City of Laguna Hills adopted a 755-acre sphere of influence area to the north of the city limits. In October of 1992, the City filed an application with the Local Agency Formation Commission (LAFCO) to annex the northern sphere of influence into the City. The City is currently in negotiations with the County of Orange regarding the sharing of tax revenues upon incorporation of the annexation area. A potential annexation date for this area will be determined pending the outcome of negotiations with the County.

Related Regional Plans and Programs

The following programs represent regional plans and programs that will have an effect on land use policy within the General Plan study area.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is responsible for developing and adopting planning programs for a six county region including Orange, Ventura, Los Angeles, San Bernardino, Riverside, and Imperial Counties. As part of its regional planning efforts, SCAG oversees the implementation of four regional planning programs that will affect the City's future growth management, transportation, air quality, and housing policies. These programs include the Growth Management Plan, the Regional Mobility Plan, SCAQMD Air Quality Management Plan, and the Regional Housing Needs Assessment process.

Regional Growth Management Plan

The Regional Growth Management Plan outlines the growth expected within the six county region over the next 20 years. The plan emphasizes the creation of a better "jobs housing balance" by adjusting growth patterns for 5 percent of new housing units and 9 percent of new jobs within each subregion. SCAG suggests that cities attempt to implement measures to achieve the suggested balance such as requiring developers to provide mitigation to offset imbalance, supporting local and regional infrastructure needed to support the suggested balance, locating new major facilities that are job-inducing in job-poor areas and those that are housing-inducing in housing-poor areas, developing human resources through education and training of workers so that businesses can find an appropriate labor force in job-poor areas, and by reducing limitations on housing in job rich areas.

Given the constraints to develop additional dwelling units in the General Plan study area, the City of Laguna Hills has limited options with which to create a significant effect on the balance of jobs to housing. In addition, major transportation projects such as the San Joaquin Hills Transportation Corridor and Metrolink Commuter Rail will have a significant impact on mobility within the region, allowing residents living in Laguna Hills to comfortably commute to job-rich areas as far away as downtown Los Angeles.

Regional Mobility Plan

Based on the assumption that daily vehicle trips on the region's streets and freeways will increase by 42 percent by the year 2010, SCAG has proposed a Regional Mobility Plan intended to recapture and retain the transportation mobility levels that existed in 1984. The plan proposes policies and programs regarding growth management, transportation system management, and facility development.

Air Quality Management Plan

SCAG has the responsibility for the implementation of clean air standards set by the SCAQMD for the attainment of State air quality standards. SCAG's other regional planning efforts described above support the Air Quality Management Plan (AQMP) and its implementation. The AQMP places emphasis on demand management measures that will reduce both the vehicle trips and vehicle miles traveled within the region. The Laguna Hills General Plan will need to include policies that are consistent with the AQMP.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Regional Housing Needs Assessment

State housing element law requires that each city analyze its existing and projected housing needs for all income levels. This analysis must include a locality's fair share of the regional need. The distribution of regional need is prepared by SCAG in its Regional Housing Needs Assessment. The current Regional Housing Needs Assessment (RHNA) was prepared in 1988 and assessed the regional housing need for the five year period 1989-1994. However, the City of Laguna Hills was not incorporated until 1991; therefore, the City was not assigned a regional need by SCAG. In the absence of regional housing need numbers, the State Department of Housing and Community Development (HCD), which reviews housing elements, indicated that the City can estimate its own future housing need based on growth projects and RHNA methodology. Additional information regarding the regional need to be included in the General Plan study area is included in the General Plan Appendix A, Population and Housing Assessment summary.

County of Orange

Measure M

On June 9, 1992, the City Council adopted Resolution 92-06-09-5 related to Measure M Growth Management Element requirements. Pursuant to Measure M, Orange County cities are required to adopt a Growth Management Element and implementing ordinances as a prerequisite to receiving the County's one-half cent sales tax.

In order to meet the requirements of Measure M, the City Council adopted Resolution No. 92-06-09-5 on June 9, 1992, outlining the steps the City would take to conform to the measure. Section 1 of the Resolution offered the City's commitment that the Growth Management Element will be adopted as part of the General Plan program. Section 4 of the Resolution committed the City to adopting a Development Mitigation Program, Development Phasing Program, and an Annual Monitoring Program by June 30, 1993. The Development Mitigation Program consists of policies that would specify the responsibilities of new development to mitigate traffic impacts. The Development Phasing Program would create a performance standard for new development to meet that ties development approvals to the availability of transportation facilities.

In order to meet the commitments outlined by the City, growth management policies developed as part of the General Plan process will need to be adopted by the City Council prior to the adoption of the entire General Plan.

Other Transportation Plans

The following transportation programs may also have an effect on land use policy within the General Plan study area (see also the Circulation and Transportation section of the Master EIR).

- San Joaquin Hills Transportation Corridor;
- Orange County Master Plan of Arterial Highways;
- Orange County Superstreet Program; and
- Orange County Congestion Management Program.

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PROJECT IMPACTS

Impacts of future development on proposed general plan land uses within the study area are discussed in the Land Use Section of the Community Development and Design chapter of the General Plan. In addition, the General Plan land uses in the City of Laguna Hills are indicated on the General Plan Land Use Map, and summarized in Table II-1, of the Laguna Hills General Plan.

MITIGATION MEASURES

Mitigation for impacts associated with land use changes within the General Plan study area are related to Circulation/Transportation, Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.

D. COMMUNITY DESIGN

EXISTING SETTING

Existing Community Design Structure

Figure IV-D-1 illustrates the overall community design structure of the study area. This analysis breaks down the identifiable physical features in the study area into design components that can be used to better understand the organization of the community. From this exhibit, one begins to visualize the structure of portions of the study area, where features overlap, where deficiencies are present, and where potential conflicts may occur. The Community Design Map also indicates where community design emphases have been focused under the County's jurisdiction. This graphic representation of the study area's physical organization provides the basis for the development of future design policies and strategies. Generally the study area is divided into six distinct community design areas (see Figure IV-D-1 below).

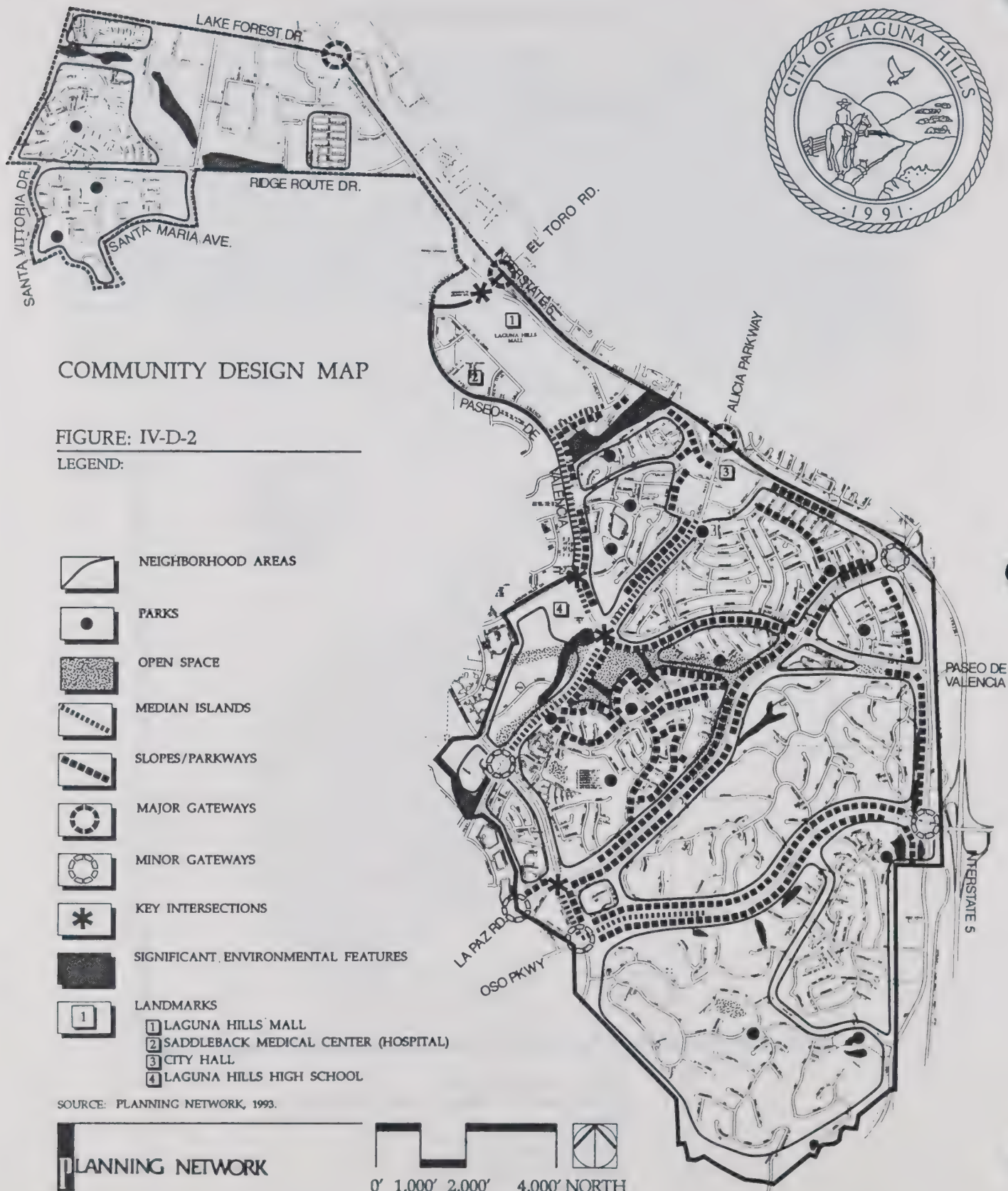
**Figure IV-D-1
Community Design Areas**



- 1 North Laguna Hills
- 2 I-5 Commercial/Employment Corridor
- 3 Aliso Creek
- 4 Central Laguna Hills
- 5 North Nellie Gail Ranch
- 6 South Nellie Gail Ranch

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

DRAFT MASTER EIR

Each of these community design areas integrates many smaller neighborhoods into a larger identifiable unit. The Key to the City's success in creating community image enhancement policies for the study area as suggested in the General Plan Issues Assessment Survey will depend on the ability to create solutions to identified issues and capture the opportunities inherent in each of the existing community design areas, while at the same time emphasizing an overall community identity and image.

Existing and Potential Scenic Routes and Corridors

Prior to the City's incorporation, the County designated several arterial streets within the study area as scenic highways as part of the Master Plan of Scenic Highways. According to the County's Master Plan of Scenic Highways, these categories are defined as follows:

- **Viewscape Corridor:** A viewscape corridor is a route traversing a corridor within which unique or unusual scenic resources and aesthetic values are found. This designation is intended to minimize the impact of the highways and land development upon the significant scenic resources along the route. Safety roadside rests and vista points should be developed, where feasible and where appropriate, to enhance any exceptional scenic values.
- **Landscape Corridor:** A landscape corridor traverses developed or developing areas and has been designated for special treatment to provide a pleasant driving environment as well as community enhancement. Development within the corridor should serve to complement the scenic highway.

The County designated all or portions of five arterial streets in the southern portion of the study area as Landscape Corridors. These streets include El Toro Road, Alicia Parkway from Paseo de Valencia south to the City limits, La Paz Road from Paseo de Valencia south to the City limits, Oso Parkway throughout the City, and Moulton Parkway where it traverses the City and sphere of influence (see Figure IV-D-5). The development of these roadways included standards for increased landscape and view easements that could accommodate highway beautification areas, paved pedestrian or bike trails, or equestrian trails (see Figure IV-D-3 and IV-D-4).

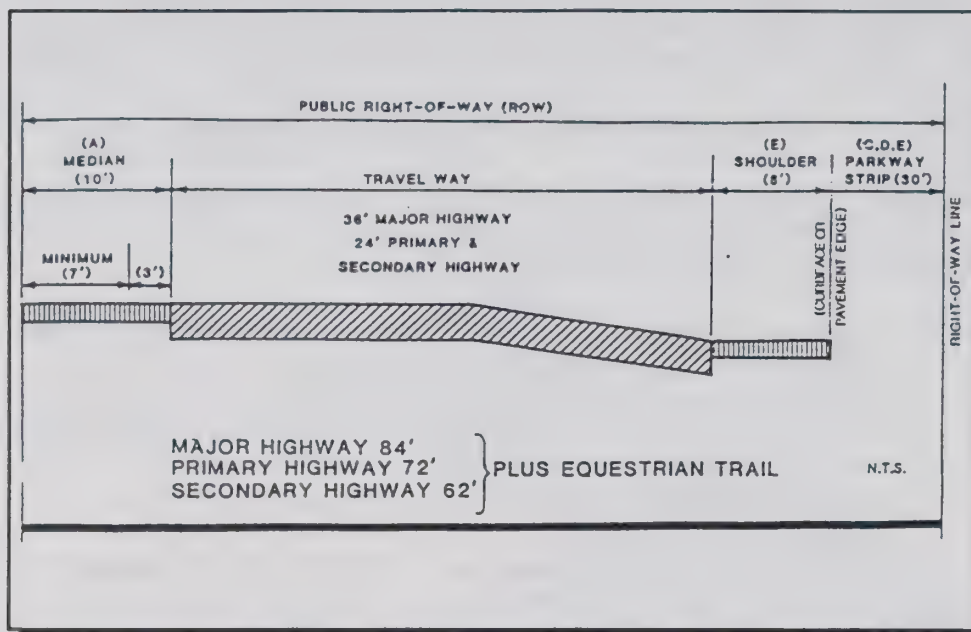
An assessment of the County-designated corridors indicates that a majority of the County's beautification efforts were focused in the central and southern portions of the study area. In these locations, existing roadways include large landscaped hillside areas and limited street crossing intersections (see Photo Essay section). Non-designated corridors to the north streets are more urban in character with standard sidewalk and parkway easements being typical.

Since County-designated landscape easements are now the responsibility of the City, an opportunity exists to improve and expand this backbone corridor system throughout the rest of the study area. Such a system could also be the basis for an "image enhancement" program aimed at providing a unified look throughout the community. This expanded system could include community unifying design components such as:

- The development of an urban trails system throughout the northern portion of the study area linking neighborhoods to community activity centers.
- A plan to establish safe routes to neighborhood schools.

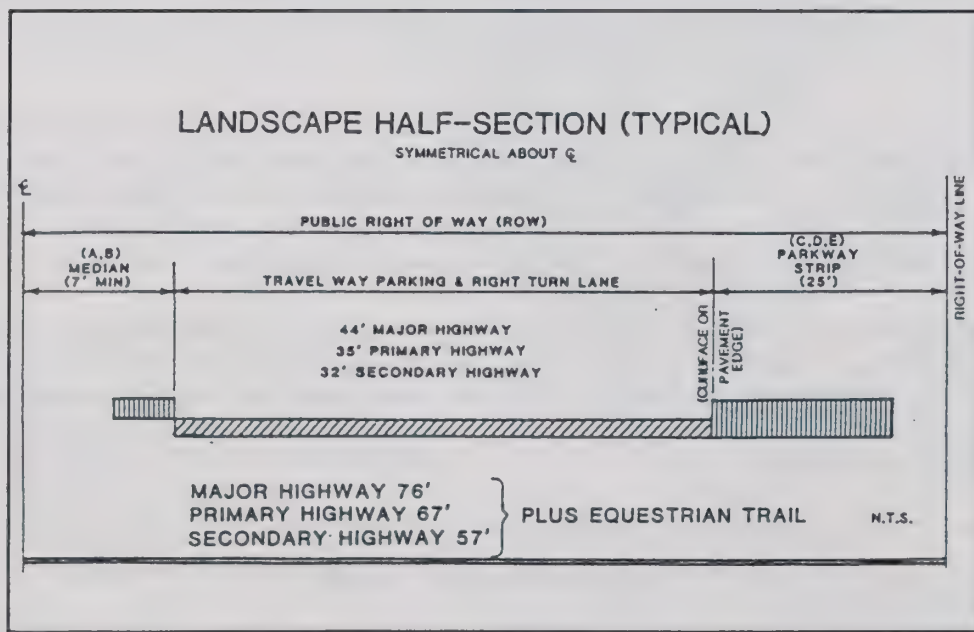
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Figure IV-D-3
Orange County Viewscape Standards



Source: Orange County General Plan Master Plan of Highways, 1990.

Figure IV-D-4
Orange County Landscape Standards



Source: Orange County General Plan Master Plan of Highways, 1990.

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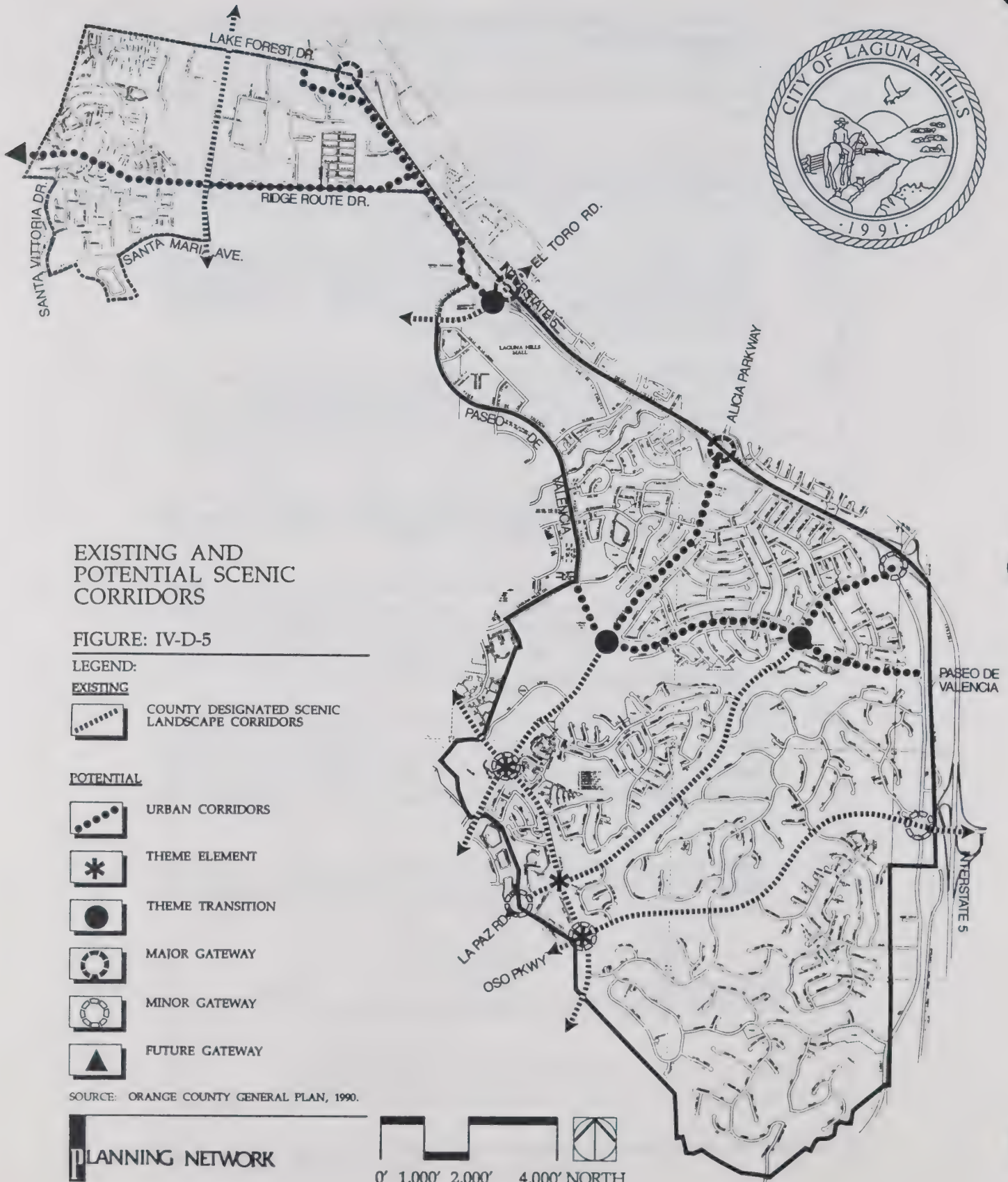
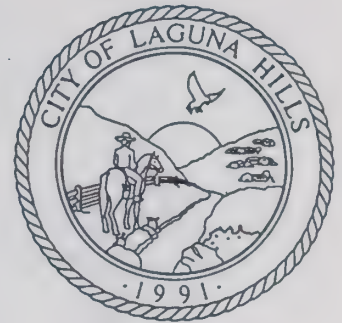
- Theme-oriented landscape treatments and coordinated street furniture and City signage concepts.
- The integration of recreational facilities such as jogging and exercise courses.

Figure IV-D-5 illustrates opportunities for the integration of urban design concepts that could be combined with existing County scenic corridor designations. This will help in developing a comprehensive community corridor master plan. Individual design concepts described include:

- **Urban Corridors:** Urban corridors represent the streetscape along areas with limited area for landscape or trail improvements. The focus of these corridors would be on the pedestrian environment, and would include unified street furniture and graphic standards.
- **Theme Element:** Theme elements provide a statement of an area's character. They could include city or area identification signage, special landscape treatments, or the placement of street furniture reinforcing the City's overall theme.
- **Theme Transition:** Denotes where prior County standards meet new corridors designations. These transition points would receive special attention in order to provide a smooth transition.
- **Major Gateways:** These depict what can be considered prominent entrances into the City where most visitors to the General Plan study area receive their first impression of the community. In the Laguna Hills General Plan study area, these gateways are located along the eastern study area boundary at identified freeway interchanges.
- **Minor Gateways:** These are considered less dramatic, or secondary, entrances to the General Plan study area. It is at these locations where transitions from one city to another occur. The minor gateways in the City are generally located along the western boundary of the General Plan study area.
- **Future Gateway:** With the extension of Ridge Route Road, this now dead end street will provide entry into the study area from the City of Irvine in the future.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

Significant Visual Features

Landmarks

The study area contains several buildings or places that could be considered landmarks. These buildings or places represent features of significant community interest, or locations having prominent architecture (see also Photo essay). Landmarks help further define the community structure by "anchoring" places in the community and providing memorable community images for residents. Notable landmarks in the City include the following:

- ***Laguna Hills City Hall:*** This new landmark provides a location for official city business as well as local community events.
- ***Saddleback Memorial Medical Center:*** As the major medical facility in the area, the medical center provides the focus for health care in the community.
- ***Laguna Hills Transportation Center:*** This building is a hub of the public transit system for the City.
- ***"Taj Mahal" Building:*** This building represents a landmark due to its unique architectural style and its visibility from the I-5 freeway.
- ***Laguna Hills High School:*** Because education is extremely important to local residents and the City has no other community facilities, the high school has been the gathering place for local community events in past years.
- ***Laguna Hills Post Office:*** Although not noted for its architecture, the post office remains a necessity for many residents, and its location is usually known by everyone.
- ***Laguna Hills Mall:*** Probably the most prominent landmark in the study area, the mall provides a regional commercial image and reinforces name recognition for the City. The Mall's regional commercial context has the most impact of the identified landmarks on residents living outside the study area.
- ***Moulton Niguel Water District Facilities:*** Hidden from the majority of city residents by the surrounding hillsides, this area is well known by residents of the surrounding neighborhoods because of the existence of two ponds, which attracted a variety of migratory birds to the area.
- ***Leisure World Gates 1 and 2:*** Although not in the study area, Leisure World continues to be associated with the City of Laguna Hills as its location.

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Scenic Views and Vistas

Due to the varied topography in the southern portion of the study area, view opportunities are present. These views and vistas allow an overall assessment of the community's structure and how it fits with the surrounding landscape. Views from prominent locations in the City give residents an overall "sense of place." Some of the best views occur in areas containing public and private parks, which are located in the southern portion of the study area. Significant views and vistas from and within the study area are described below and in Figure IV-D-6.

Significant Vista Points

Significant vista points represent locations where the general public may obtain an overall impression of all or a significant part of the community.

- ***Moulton Ranch Park:*** This private park offers 180 degree views across the I-5 freeway toward Mission Viejo and beyond. Although Moulton Ranch Park is a private park, there are no existing barriers to prevent public use.
- ***Mandeville Park:*** This City park provides 120-degree view opportunities over the Moulton Niguel Water District toward Aliso Viejo, the City of Laguna Niguel and beyond.
- ***Wild West Center:*** Views from this shopping center include 120 degree vistas across the I-5 freeway toward the City of Mission Viejo, the City of Lake Forest and local mountains beyond.

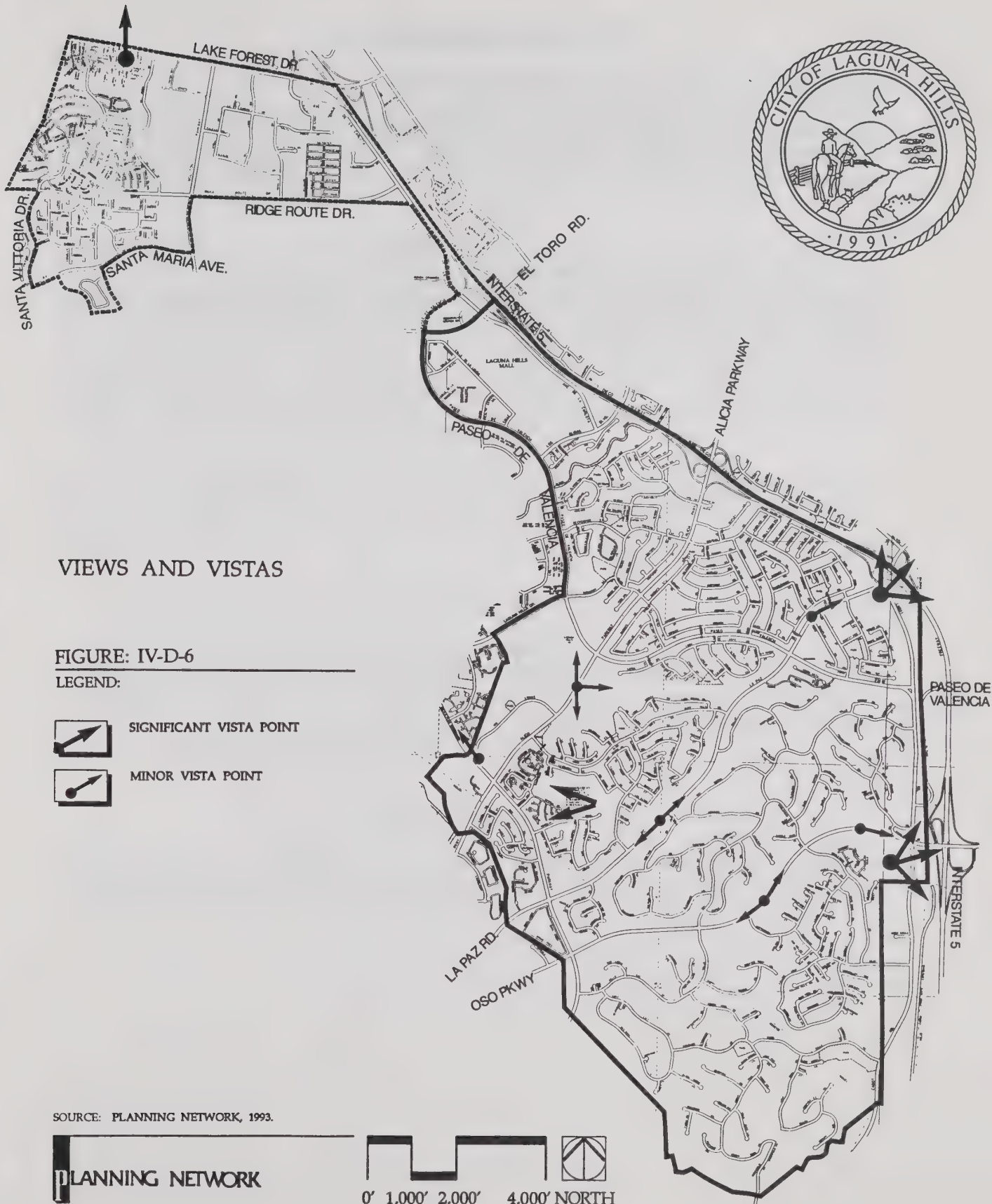
Minor Scenic Vistas

Minor scenic vistas represent visual images that may lack the grandeur of a scenic overlook from atop a hill, but make a lasting impression on the viewer. These are images most often received while driving through the community, cresting a hill, or traveling through a significant widening of the roadway.

- ***Moulton Parkway:*** While driving north on this roadway, views of the Aliso Viejo Planned Community appear to rise in the distance. Upon leaving the study area boundary, much of the development to the west comes into view.
- ***Alicia Parkway:*** Along Alicia Parkway just south of Paseo de Valencia, the view widens to reveal open space and hillside areas on both sides of the roadway.
- ***La Paz Road:*** Traveling northeast on La Paz just north of Paseo de Valencia, the roadway crests a small knoll and provides a clear view to the east.
- ***Oso Parkway:*** Traveling east on Oso Parkway just before the intersection with Cabot Road, the roadway travels down a grade and provides a clear view across the I-5 freeway to the east.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

DRAFT MASTER EIR

PROJECT IMPACTS

The City of Laguna Hills assumed a majority of the design programs that were in place prior to incorporation. The General Plan proposes to expand these existing programs and tailor design programs to the local community's needs. Implementation of General Plan design related programs are anticipated to have a beneficial impact on the study area by improving the City's overall image and identification.

MITIGATION MEASURES

Implementation of the Laguna Hills General Plan is expected to produce beneficial aesthetic impacts. Therefore, no mitigation is necessary.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

E. GROWTH MANAGEMENT

EXISTING SETTING

On June 9, 1992, the City Council adopted Resolution 92-06-09-5 related to Measure M Growth Management Element requirements. Pursuant to Measure M, Orange County cities are required to adopt a Growth Management Element and implementing ordinances as a prerequisite to receiving the County's one-half cent sales tax.

In order to meet the requirements of Measure M, the City Council adopted Resolution No. 92-06-09-5 on June 9, 1992, outlining the steps the City would take to conform to the measure. Section 1 of the Resolution offered the City's commitment that the Growth Management Element will be adopted as part of the General Plan program. Section 4 of the Resolution committed the City to adopting a Development Mitigation Program, Development Phasing Program, and an Annual Monitoring Program by June 30, 1993. The Development Mitigation Program consists of policies that would specify the responsibilities of new development to mitigate traffic impacts. The Development Phasing Program would create a performance standard for new development to meet that ties development approvals to the availability of transportation facilities.

In order to meet the commitments outlined by the City, growth management policies developed as part of the General Plan process will need to be adopted by the City Council prior to the adoption of the entire General Plan.

PROJECT IMPACTS

Impacts to growth management and growth management policies as they relate to the proposed General Plan are discussed in the Growth Management Section of the Community Development and Design chapter of the General Plan. This portion of the General Plan also analyzes, as it relates to Laguna Hills, consistency and compliance with the Countywide Growth Management Program requirements embodied in the approved Measure M Ordinance.

MITIGATION MEASURES

Mitigation for impacts associated with the adoption of a growth management strategy are related to Circulation/Transportation and Infrastructure, and are included in those sections of the Master EIR.

F. CIRCULATION AND TRANSPORTATION

EXISTING SETTING

Figure IV-F-1 illustrates the existing circulation system within the General Plan study area. The primary roadways in the City are discussed below. Roadway classifications are the County of Orange Master Plan of Arterial Highways classifications, as adopted by the City upon incorporation. These classifications and roadway standards have been incorporated into the existing circulation system design.

Major Arterials

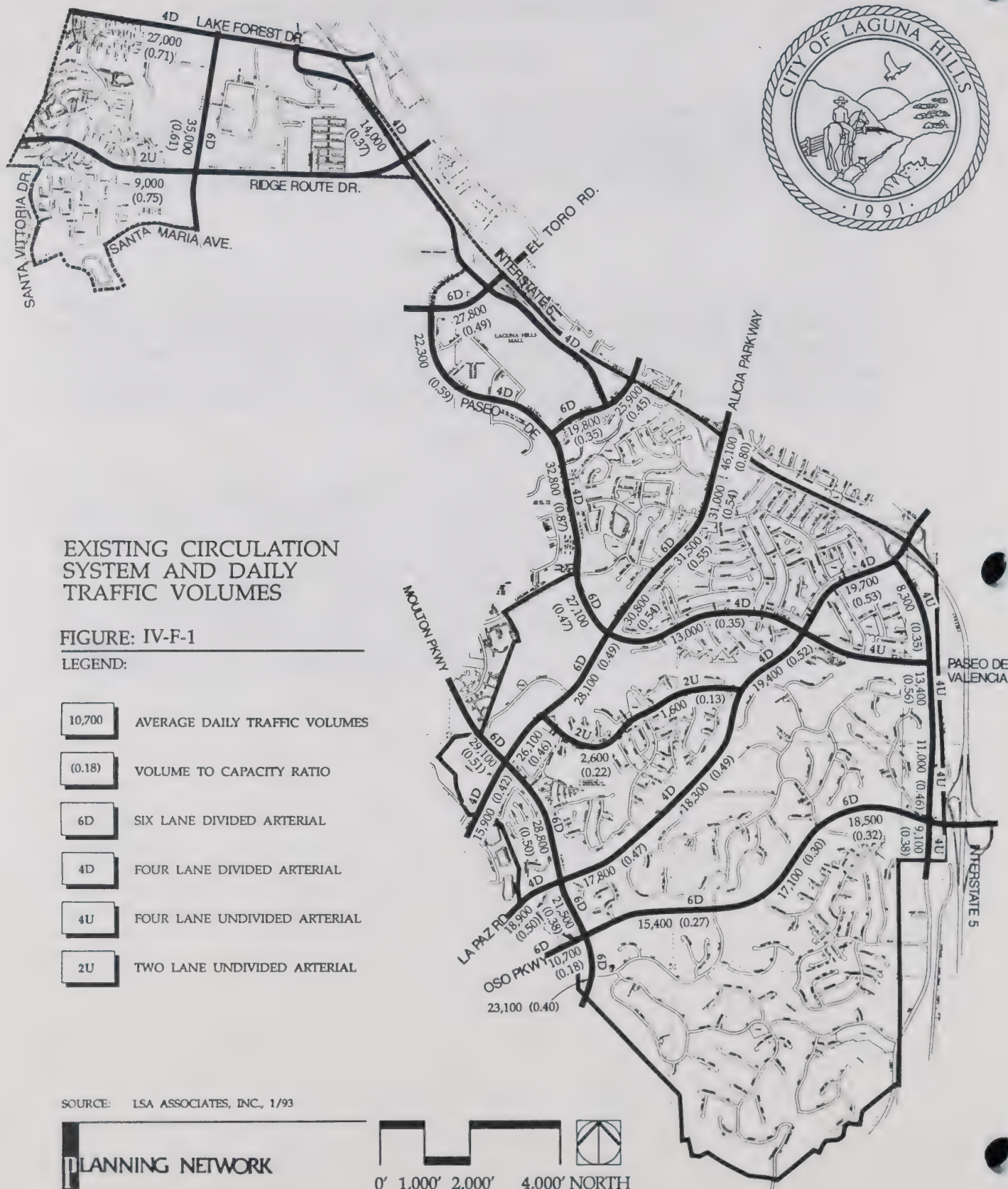
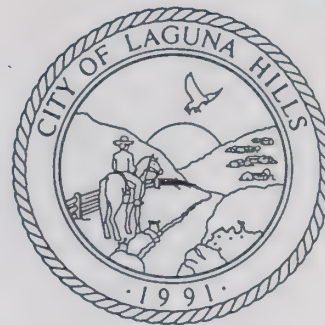
Major arterials are six lane divided highways, with a typical right-of-way of 120 feet. A six lane major arterial is designed to accommodate between 30,000 and 45,000 vehicle trips per day at level of service (LOS) C. The function of major arterials is to carry a large volume of regional traffic not handled by the freeway system. Major arterials comprise approximately 23 miles, or 13 percent, of the circulation system of the City of Laguna Hills. Descriptions of major arterials in the City follow.

Alicia Parkway

Built to its ultimate configuration between I-5 and Moulton Parkway, Alicia Parkway is six lanes with raised, planted medians. South of Moulton Parkway, Alicia Parkway becomes a four lane divided roadway, and transitions to a two lane roadway at the city limits with Aliso Viejo. Near the I-5 Freeway, Alicia Parkway provides access to adjacent commercial and residential land uses. The predominant adjacent land uses along Alicia Parkway between Costeau Drive and Moulton Parkway are residential and open space, with a commercial center located near the intersection of Alicia Parkway and Paseo de Valencia. The speed limit along Alicia Parkway is 45 miles per hour (mph). On-street parking is prohibited along most of the roadway, and bicycles lanes are not provided.

CITY OF LAGUNA HILLS

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SOURCE: LSA ASSOCIATES, INC., 1/93

March 31, 1994

IV-F-2

CITY OF LAGUNA HILLS

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El Toro Road

Within the city limits, El Toro Road is a six lane divided major arterial, with a planted median. This roadway defines the City's northern border, and provides access to the Laguna Hills Mall and surrounding commercial and retail uses. The posted speed is 35 mph, which coincides with the 35 mph speed limit in the adjacent County area. El Toro Road provides direct access to I-5.

The intersection of El Toro Road/Avenida de la Carlota/I-5 southbound ramp is designated in the County of Orange Congestion Management Program (CMP) Highway System, and is the only CMP designated intersection located within the City of Laguna Hills. As a result of this designation, the City is required to comply with intersection level of service reporting and monitoring at this location to maintain eligibility for gas tax subventions. In addition, El Toro Road has been designated as a "Super Street" in the CMP. This special street designation allows for the development of improvements that enhance the traffic carrying capacity of a roadway (see also Moulton Parkway). On-street parking is prohibited, and bicycle lanes are not provided along El Toro Road.

Lake Forest Drive

Located within the City's sphere of influence, Lake Forest Drive is designated as a major arterial between I-5 and Moulton Parkway. Currently, Lake Forest Drive is a six lane arterial between I-5 and Avenida de la Carlota. Between Avenida de la Carlota and Moulton Parkway, Lake Forest Drive currently is a four lane divided arterial with a painted median. Lake Forest Drive transitions to a two lane undivided roadway west of Moulton Parkway. The current speed limit is 45 mph. On-street parking is prohibited along most of the roadway, and bicycle lanes are not provided.

Los Alisos Boulevard

Los Alisos Boulevard, between I-5 and Avenida de la Carlota, is a four lane divided arterial. A speed limit is not posted; however, a speed limit of 40 mph has been recommended. Between Avenida de la Carlota and Paseo de Valencia, Los Alisos is built to its ultimate six lane major arterial designation. The raised median is landscaped. At its intersection with Paseo de Valencia, where it terminates in a "T" intersection, three westbound left turn lanes are provided. On-street parking is prohibited along segments of Los Alisos Boulevard, and bicycle lanes are not provided.

Moulton Parkway

Moulton Parkway is currently designated as a major arterial, and is composed of six travel lanes. Between Alicia Parkway and La Paz Road, Moulton Parkway has a painted median, while south of La Paz Road, a raised planted median is provided. The speed limit is 45 mph along the majority of Moulton Parkway. On-street parking is prohibited along most of Moulton Parkway.

Moulton Parkway is indicated in the CMP as both an arterial and a "Super Street" in the overall CMP highway system. This special street designation allows for the development of improvements that enhance the traffic-carrying capacity of a roadway. Improvements may include:

- addition of through or turn lanes;
- preferential traffic signal timing and synchronization;
- loops for left turn;

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

- removal of on-street parking;
- intersection grade separations;
- grade separated turning movements;
- access limitation, e.g., right turns only, or no access (streets and/or driveways);
- access consolidation;
- frontage roads; and
- pedestrian grade separations.

Currently, a study is under way to determine ultimate Super Street improvements to Moulton Parkway. The preferred roadway is six through lanes with multiple turn lanes at intersections.

Moulton Parkway is also a part of the County's Moulton Parkway/Laguna Niguel Major Thoroughfare and Bridge Fee Program. This program, adopted in January 1987, has generated approximately \$16 million in revenues to construct arterial improvements in the Laguna Hills and Laguna Niguel areas. The Moulton Parkway Feasibility Study defined \$13.5 million in needed improvements to Moulton Parkway from Lake Forest Drive to Crown Valley Parkway.

Oso Parkway

Oso Parkway is built to its ultimate six lane divided Major arterial classification. Between Moulton Parkway and Bridlewood Drive, raised, planted medians are furnished. East of Bridlewood Drive, a painted median exists. On-street parking is allowed in particular locations with restrictions. Bicycle lanes are provided along the length of Oso Parkway (see Figure IV-F-2), and equestrian trails and crossings are provided near Moulton Parkway and Nellie Gail Road. A 45 mph speed limit is posted.

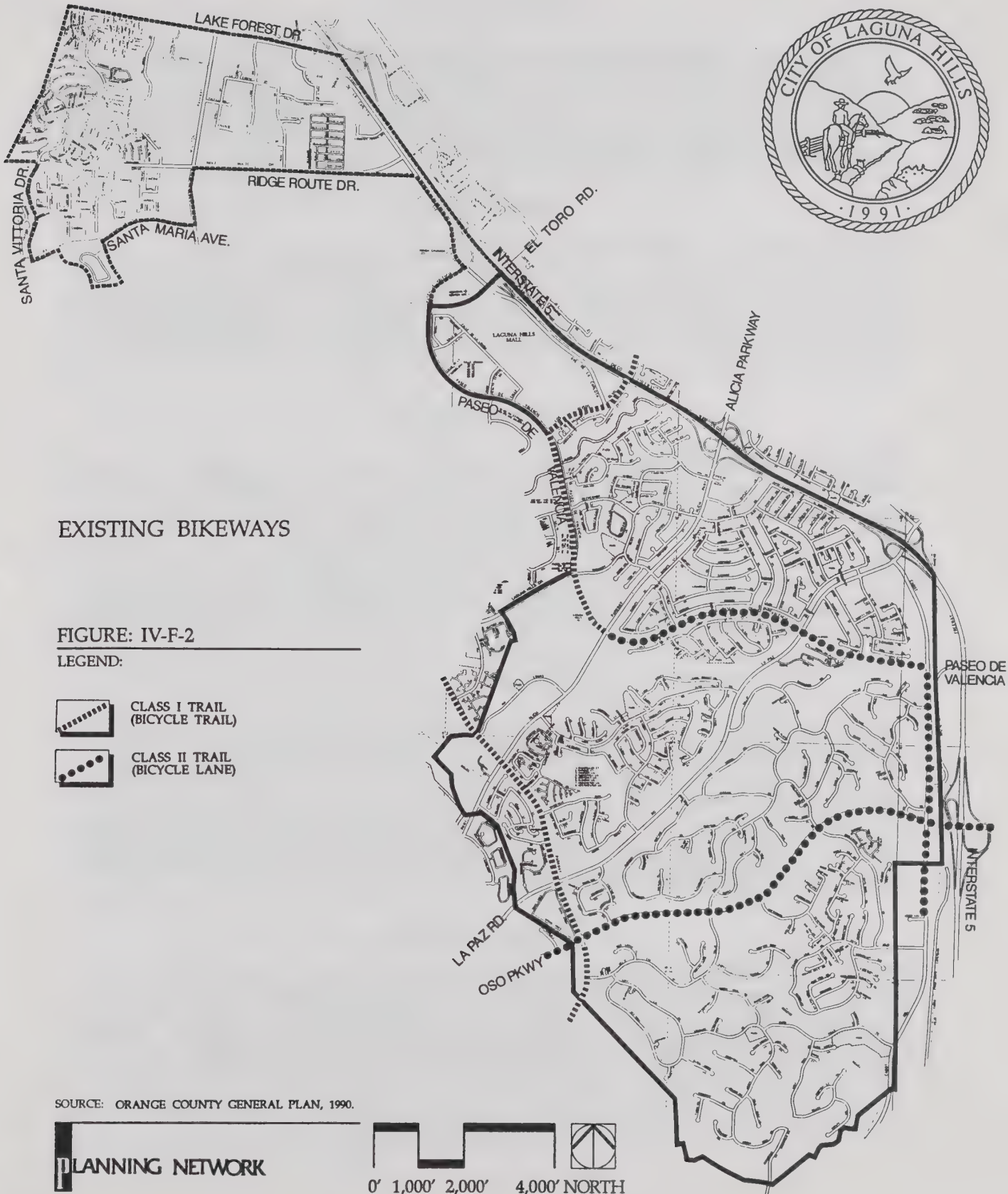
Paseo de Valencia (El Toro Road to La Paz Road)

Between El Toro Road and Laguna Hills Drive/Stockport Street, Paseo de Valencia is a four lane divided arterial. Along this segment, Paseo de Valencia defines the shared boundary between the City and unincorporated areas to the west. The arterial includes a raised, planted median and on-street bicycle lanes (see Figure IV-F-2). On-street parking is prohibited. Adjacent land uses to the east include the commercial and health related uses adjacent to the Laguna Hills Mall. To the west, land uses include retirement residential units.

Between Laguna Hills Drive/Stockport Street and La Paz Road, Paseo de Valencia is built to its ultimate six lane divided arterial classification. Painted medians exist, and bicycle lanes are provided on both sides of the roadway (see Figure IV-F-2). Adjacent land uses include Laguna Hills High School, residential and commercial uses. Pedestrian and bicycle traffic is heavy before and after school hours. The speed limit along Paseo de Valencia is 45 mph.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

DRAFT MASTER EIR

Primary Arterials

Primary arterials are four lane divided roadways, with a typical right-of-way of 100 feet. A primary arterial is designed to accommodate between 20,000 and 30,000 vehicle trips per day at LOS C. A primary arterial's function is similar to that of a major arterial; the principal difference is capacity. Primary arterials comprise approximately 30 lane miles, or 17 percent, of the total Citywide circulation system. Primary arterials in the City of Laguna Hills include the following roadways.

Laguna Hills Drive

Laguna Hills Drive is a four lane divided roadway that shares jurisdiction with the neighboring unincorporated area. The center median is painted. Bicycle lanes are present (see Figure IV-F-2), and on-street parking is allowed with restrictions. Adjacent land uses include Laguna Hills High School and residential uses. School crossings exist at the intersection of Laguna Hills Drive/Paseo de Valencia. Presently, this segment does not have a posted speed; however, the speed limit is 25 mph when children are present at school.

La Paz Road

Between Moulton Parkway and Paseo de Valencia, La Paz Road is a four-lane divided primary arterial with a painted median. On-street parking is prohibited. North of Paseo de Valencia, four lanes are provided with a raised, landscaped median. La Paz Road is characterized by rolling terrain with intermittent steep grades. Speed limits are posted between 40 mph and 45 mph. Surrounding land uses include predominantly residential and open space, with some school and commercial uses. La Paz Road provides access to I-5 via a full interchange. Traffic is dense in this area, and the surrounding commercial land uses contribute to the overall travel demand in this area. Bicycle lanes are not provided along La Paz Road.

Secondary Arterials

Secondary arterials are four lane undivided roadways, with a typical right-of-way of 80 feet. A secondary arterial can accommodate between 10,000 to 20,000 vehicle trips per day at LOS C. A secondary arterial serves as a collector, distributing traffic between local streets and major and primary arterials. Although some secondary arterials serve as through routes, most provide more direct access to surrounding land uses than major or primary arterials. In the City of Laguna Hills, secondary arterials make up approximately 16 lane miles, or 9 percent, of the circulation system. Secondary arterials include the following roadways.

Avenida de la Carlota

Avenida de la Carlota is a four lane undivided roadway that provides parallel travel to the I-5 Freeway, and access to the adjacent commercial and retail uses north of El Toro Road. South of El Toro Road, Avenida de la Carlota is composed of four lanes with a painted median. On-street parking is prohibited along most of this roadway, and bicycle lanes are not provided.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Cabot Road

Within the city limits, Cabot Road is a four lane undivided secondary arterial. Bicycle lanes are provided (see Figure IV-F-2), and the speed limit is 45 mph. East of Cabot Road, there are equestrian trails, railroad tracks, and the I-5 Freeway. In the north, Cabot Road ends at La Paz Road, where it becomes the fourth leg of the La Paz Road/I-5 southbound ramp intersection. Cabot Road continues south of the city limits, south of Oso Parkway into Mission Viejo and Laguna Niguel. Cabot Road is planned for extension south of Crown Valley Parkway to complete its Master Plan of Arterial Highways designated route.

Paseo de Valencia (La Paz Road to Cabot Road)

Between La Paz Road and Cabot Road, Paseo de Valencia is a four lane undivided secondary arterial. This area is characterized by rolling hills and somewhat steep grades. Adjacent land uses include primarily residential tracts and Valencia School. Bicycle lanes exist along both sides of this segment (see Figure IV-F-2). The speed limit is 45 mph.

Regional Roadways

The following roadways are regional in nature, and are under the jurisdiction of agencies other than the City of Laguna Hills.

San Diego Freeway (Interstate Highway 5)

The San Diego Freeway is the major north-south transportation facility that defines the northern and eastern boundary of the City of Laguna Hills. Between Lake Forest Drive and El Toro Road, the I-5 is a ten lane facility. South of El Toro Road, the I-5 provides eight lanes of travel. The I-5 is a major regional facility that provides circulation throughout the State of California, from Mexico to the Oregon border. The I-5 in the vicinity of the City will include high-occupancy vehicle (HOV) lanes by the year 1997. Construction of the HOV lanes, which also includes ramp improvements at El Toro Road, will occur in phases to minimize impacts on the Freeway's traffic flow and adjacent communities including the city of Laguna Hills. Impacts to the City's circulation and freeway access system will be minor.

Within the City, access to the I-5 Freeway is provided via full interchanges, half of which are located within the General Plan study area, with El Toro Road, Alicia Parkway, and La Paz Road. In the City's sphere of influence, a full interchange at Lake Forest Drive provides access to the I-5, while a full interchange at Oso Parkway, just east of the city limits, also provides freeway access.

Regional Transportation Plans

Proposed San Joaquin Hills Transportation Corridor

The proposed San Joaquin Hills Transportation Corridor (SR-73) is a planned, six lane limited access tollway between Jamboree Road in the City of Newport Beach and the I-5 freeway in the City of San Juan Capistrano. The proposed tollway facility is approximately 19 miles in length, and travels through the cities of Newport Beach, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Mission Viejo, San Juan Capistrano and unincorporated areas of Orange County.

DRAFT MASTER EIR

Within the City of Laguna Hills, access to the SR-73 is planned at Moulton Parkway and La Paz Road. Exclusive HOV access is planned at Laguna Hills Drive and Pacific Park Drive, between Moulton Parkway and La Paz Road.

While planning for the SR-73 is complete and all permits have been issued, the proposed project will not begin until completion of the financing process. According to the Transportation Corridor Agency, the planned construction start date is estimated at summer, 1993.

Orange County Congestion Management Program

The City of Laguna Hills will be required to show continued compliance with the Countywide Congestion Management Program. Currently, Moulton Parkway, El Toro Road and the I-5 Freeway are elements of the CMP Highway System. Compliance with the CMP provisions includes:

- continued land use coordination through the utilization of standardized traffic impact analysis methodologies;
- implementation and enforcement of Transportation Demand Management (TDM) strategies, including the adoption of a Citywide TDM ordinance that encourages new developments to provide amenities for car pools, van pools, bicycles, and other modes of alternative transportation;
- maintenance of transit service standards, including service frequency, transit access, and coordination of transit service provided by separate operators;
- demonstrated transportation modeling consistency with the Countywide computer model;
- monitoring of CMP highway system levels of service, including analysis and reporting of intersection levels of service in excess of the CMP threshold LOS E;
- development of level of service deficiency plans, when a CMP intersection is calculated at a level of service in excess of LOS E;
- development of seven year capital improvement programs; and
- monitoring and conformance with all CMP provisions.

The benefits of compliance with the CMP provisions include the allocation of the City's fair share of gasoline tax subventions.

Orange County Traffic Improvement and Growth Management Ordinance

The 21 percent allocated to Local Streets and Roads is divided further into Local Turnback Funds (14.6 percent), Orange County Unified Transportation Trust (OCUTT) or Arterial Highway Financing Program (AHFP) contributions (3.2 percent), and Growth Management Area (GMA) Improvement Projects (3.2 percent).

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The Measure M Local Turnback Funds may be used for any operations, maintenance, or construction projects on the City's local streets and roads. In addition to local streets and roads projects, the City may use the Local Turnback Funds for any transportation purpose allowed for expenditure of tax revenues under Article XIX of the California Constitution.

Existing Traffic Conditions

The assessment of existing traffic conditions examines average daily traffic (ADT) volumes for key roadways in the City of Laguna Hills, as well as a.m. and p.m. peak hour levels of service at key intersections as identified by City staff, where two Master Plan highways intersect.

Daily Traffic Volumes

Existing daily traffic volumes for the primary roadways within the General Plan study area were provided by the City Engineer, and were supplemented with additional counts conducted by LSA. Figure IV-F-1 summarizes these existing traffic counts, along with the number of lanes along each roadway section.

In addition, Figure IV-F-1 presents the relationship of the ADT volume to the theoretical capacity used by the County of Orange for each roadway. The theoretical capacity is determined based on type of roadway and number of travel lanes. Based on the theoretical capacity, a ratio of the volume to the capacity criteria has been calculated. Those roadway sections with a ratio greater than 1.00 (i.e., having a volume in excess of the capacity criteria) are considered unsatisfactory. As shown in Figure IV-F-1, all roadway links currently operate with satisfactory levels of service.

Peak Hour Intersection Levels of Service

Peak hour intersection operations are assessed relative to overall intersection capacity. The intersection level of service is determined based on the portion of the intersection's capacity used by peak hour traffic. Levels of service indicate the prevailing operation of an intersection, and are based on the County/City approved intersection capacity utilization (ICU) analysis approach.

For signalized intersections, the turn volumes for each intersection are examined to determine the volume/capacity (v/c) ratio for each turn movement. Using the ICU analysis methodology, conflicting turn movement volumes and their v/c ratios are examined to determine the overall capacity utilization of the intersection in the form of a v/c ratio, termed the ICU. In essence, an ICU is the percentage of an intersection's capacity that is needed to adequately accommodate all vehicles traveling through the intersection.

The resulting intersection capacity utilization is expressed in terms of LOS, where LOS A represents free flow activity and LOS F is overcapacity operations. For evaluation of intersection impacts within the City of Laguna Hills, the upper limit of LOS D, represented by an ICU value of 0.90 or lower, is considered satisfactory operation. An ICU value in excess of 0.90, either LOS E or LOS F, is considered unsatisfactory. It should be noted that this threshold of satisfactory operation has not been formally adopted by an action of the Laguna Hills City Council.

Figure IV-F-3 illustrates the intersections analyzed for the Community Profile. Table IV-F-1 summarizes the a.m. and p.m. peak hour levels of service for each of the intersections analyzed. Intersections operating at unsatisfactory levels of service are discussed below. Three intersections studied operate unsatisfactorily, exceeding the LOS D threshold. The intersection of Paseo de Valencia/Los Alisos Boulevard currently operates at LOS E in the a.m. peak hour, while the intersection of Paseo de Valencia/Alicia Parkway operates at LOS E in the p.m. peak hour. The intersection of Moulton Parkway/Lake Forest Drive operates at LOS F during both peak hours.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The high a.m. peak hour volume of northbound right-turning vehicles contributes to the unsatisfactory operations at Paseo de Valencia/Los Alisos Boulevard. The southbound volume of traffic passing through the intersection of Paseo de Valencia/Alicia Parkway during the p.m. peak hour contributes to the LOS E condition.

At the intersection of Moulton Parkway/Lake Forest Drive, the typical commute patterns from Laguna Hills to central and northern employment destinations in the morning and vice versa in the evening are the cause of the LOS F condition currently exhibited. The northbound through movement can usurp up to 70 percent of the available intersection capacity in the a.m. peak hour, while the southbound through movement accounts for up to 65 percent of the intersection capacity in the p.m. peak hour.

Table IV-F-1
Existing 1992 Condition Intersection Level of Service Analysis

Intersection Location		A.M. Peak Hour		P.M. Peak Hour	
		ICU	LOS	ICU	LOS
1.	Avenida de la Carlota/El Toro Road	0.56	A	0.83	D
2.	Paseo de Valencia/El Toro Road	0.54	A	0.61	B
3.	Avenida de la Carlota/Paseo de Valencia	0.76	C	0.48	A
4.	Avenida de la Carlota/Los Alisos Boulevard	0.52	A	0.75	C
5.	Paseo de Valencia/Los Alisos Boulevard	0.93	E	0.73	C
6.	Paseo de Valencia/Alicia Parkway	0.63	B	0.92	E
7.	Paseo de Valencia/Laguna Hills Drive	0.70	C	0.80	D
8.	Alicia Parkway/I-5 southbound ramps	0.43	A	0.66	B
9.	Moulton Parkway/Alicia Parkway	0.86	D	0.76	C
10.	I-5 southbound ramps-Cabot Road/La Paz Road	0.78	C	0.85	D
11.	La Paz Road/Paseo de Valencia	0.58	A	0.52	A
12.	Moulton Parkway/La Paz Road	0.74	C	0.71	C
13.	Cabot Road/Paseo de Valencia	0.48	A	0.43	A
14.	Cabot Road/Oso Parkway	0.59	A	0.57	A
15.	Moulton Parkway/Oso Parkway	0.66	B	0.61	B
16.	Moulton Parkway/Lake Forest Drive	1.21	F	1.06	F
17.	Moulton Parkway/Ridge Route Drive	0.75	C	0.71	C
18.	Avenida de la Carlota/Ridge Route Drive	0.40	A	0.59	A

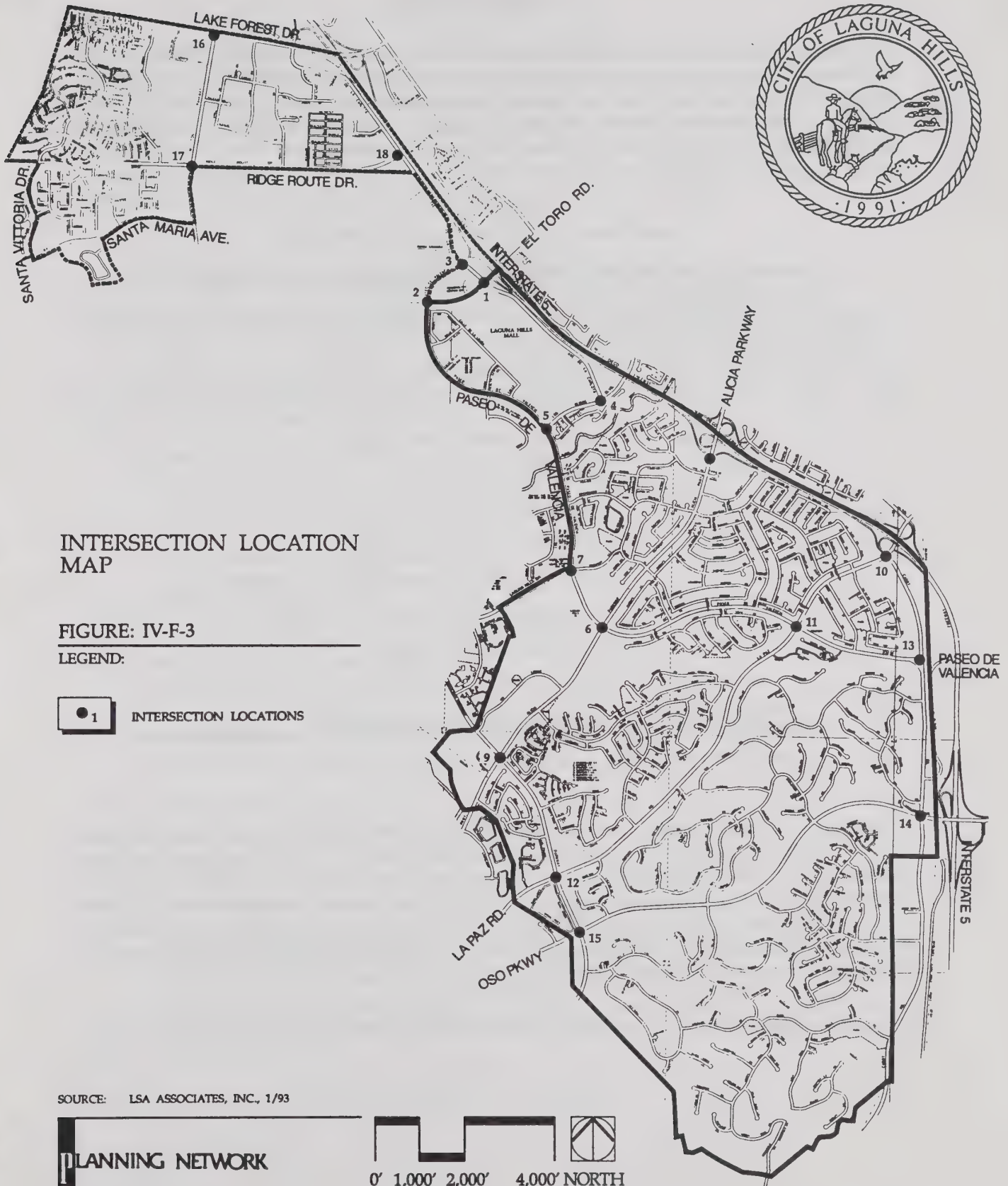
Source: LSA Associates, Inc., 1993.

Note: ICU is Intersection Capacity Utilization
LOS is Level of Service.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

DRAFT MASTER EIR**Transit Service**

Local fixed route bus service is provided along arterial streets in the City of Laguna Hills. Bus stops are located for various routes along Paseo de Valencia, Los Alisos Boulevard, Alicia Parkway, Moulton Parkway, La Paz Road and El Toro Road. Destinations throughout the County can be reached via the bus routes traveling through Laguna Hills. A listing of the bus routes that travel through the City of Laguna Hills is provided in Table IV-F-2, below.

Table IV-F-2
Bus Routes through the City of Laguna Hills

Route Number	Route Location
57	Santa Ana - Laguna Hills
75, 75A	Santa Ana - Laguna Hills
78	Huntington Beach - Laguna Hills
85, 85A, 85B	Santa Ana - Capistrano Beach/Laguna Hills
91	Laguna Hills - San Clemente
92	Laguna Hills - Mission Viejo
93	Laguna Hills - Rancho Santa Margarita
301	San Juan Capistrano - Laguna Hills - South Coast Metro
305	San Juan Capistrano - Laguna Hills - Santa Ana
307	San Juan Capistrano - Anaheim
308	Laguna Hills - Irvine Spectrum
385, 385A, 385B	Laguna Hills - Laguna Niguel/Dana Point

Source: Orange County Transportation Authority, 1993.

Located near the Laguna Hills Mall at the intersection of Paseo de Valencia/Calle de los Caballeros, the Laguna Hills Transportation Center is a regional transit facility. Local fixed route bus service from the Laguna Hills Transportation Center is provided for almost 20 routes, which serve all cities in the County. Service frequency and transit access follow the standards recommended by the Orange County Transportation Authority (OCTA). In addition to local fixed route bus service, intra-county commuter service lines are also provided from the Laguna Hills Transportation Center. Route 308 provides intra-county bus service from Laguna Hills to the Irvine Spectrum.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

PROJECT IMPACTS

The impacts of growth consistent with the General Plan on the Laguna Hills circulation network are discussed in the Circulation and Transportation Section of the Municipal Facilities and Services chapter of the General Plan. At build out, the proposed General Plan land uses will generate approximately 274,042 average daily trips for an increase of 44,440 trips over the existing condition. Total vehicle miles travelled are expected to be approximately 2,340,318. In addition, Table IV-F-3 summarizes the level of service analysis performed for the proposed General Plan on 18 major intersections identified within the City.

Table IV-F-3
General Plan (build out) Intersection Level of Service Analysis

Intersection Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
1. Avenida de la Carlota/El Toro Road	0.58	A	0.74	C
2. Paseo de Valencia/El Toro Road	0.89	D	0.78	C
3. Avenida de la Carlota/Paseo de Valencia	0.89	D	0.60	A
4. Avenida de la Carlota/Los Alisos Boulevard	0.62	B	0.74	C
5. Paseo de Valencia/Los Alisos Boulevard	0.87	D	0.85	D
6. Paseo de Valencia/Alicia Parkway	0.77	C	0.79	C
7. Paseo de Valencia/Laguna Hills Drive	0.68	B	0.88	D
8. Alicia Parkway/I-5 southbound ramps	0.41	A	0.60	A
9. Moulton Parkway/Alicia Parkway	0.79	C	0.78	C
10. I-5 southbound ramps-Cabot Road/La Paz Road	0.83	D	0.86	D
11. La Paz Road/Paseo de Valencia	0.81	D	0.68	B
12. Moulton Parkway/La Paz Road	1.19	F	1.10	F
13. Cabot Road/Paseo de Valencia	0.56	A	0.57	A
14. Cabot Road/Oso Parkway	0.82	D	0.82	D
15. Moulton Parkway/Oso Parkway	1.17	F	0.83	D
16. Moulton Parkway/Lake Forest Drive	0.79	C	0.55	A
17. Moulton Parkway/Ridge Route Drive	0.51	A	0.59	A
18. Avenida de la Carlota/Ridge Route Drive	0.85	D	0.67	B

Source: LSA Associates, Inc., 1993.

Note: ICU is Intersection Capacity Utilization/LOS is Level of Service

DRAFT MASTER EIR

MITIGATION MEASURES

- (F.1) All roadways within the City of Laguna Hills shall be constructed to their master planned cross sections as shown on the Laguna Hills General Plan Circulation Map in conjunction with adjacent development. If determined by the City Engineer to be necessary to provide for adequate traffic flow, any individual development may be required to provide off-site improvements, subject to appropriate reimbursement agreements from future development or other financial mechanisms to ensure that new development pays only its proportionate share for improvements.
- (F.2) The intersection improvements shown on Table IV-F-3 of the Master EIR shall be constructed in conjunction with adjacent development. If determined by the City Engineer to be necessary to provide for adequate traffic flow, any individual development may be required to provide off-site intersection improvements, subject to appropriate reimbursement agreements from future development or other financial mechanisms to ensure that new development pays only its proportionate share for improvements.
- (F.3) The City of Laguna Hills shall maintain or improve the mobility within the City to achieve a standard level of service of "D" or better at all intersections during the a.m. and p.m. peak hours for signalized intersections under the jurisdiction of the City of Laguna Hills.
- (F.4) Bicycle, walking, and public equestrian lanes, paths, and trails as depicted in the Laguna Hills General Plan Circulation Map and Master Plan of Parks and Recreation shall be provided concurrent with adjacent road and park construction.
- (F.5) If requested by the Orange County Transit Authority, transit amenities, such as, but not limited to, bus turnouts and bus shelters, shall be provided concurrent with adjacent roadway construction.
- (F.6) The City of Laguna Hills shall implement the adopted Transportation Demand Management Ordinance (Ordinance Number 91-1).

MITIGATION MONITORING

On an annual basis the City of Laguna Hills shall do the following to monitor the above described mitigation measures:

- Monitor the a.m. and p.m. peak hour levels of at the intersection of the I-5 Freeway and El Toro Road south (Avenida de la Carlota). Should the level of service at this intersection exceed LOS E, the City of Laguna Hills shall prepare an intersection deficiency plan per the requirements of the Orange County Congestion Management Plan.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

In order to maintain eligibility for Measure M funding programs, submit to the Orange County Transportation Authority (OCTA) documentation of ongoing, annual efforts to the implement following items.¹

- General Plan traffic Level of Service Standards (i.e., Level of Service D);
- General Plan Municipal Facilities and Service Mitigation Standards;
- General Plan Implementation and Monitoring Programs;
- General Plan Circulation Element Strategies and Programs;
- City adopted Transportation Demand Management Ordinance;
- City Local Pavement Management Program;
- City adopted program to satisfy the Maintenance of Effort (MOE) requirements;
- City adopted seven year Capital Improvement Program that includes all transportation projects funded partially or fully by Measure M funds; and
- Participation in Growth Management Area (GMA) 10 Inter-jurisdictional forums.

Collect traffic volume data on master planned facilities. As levels of service approach LOS E, the City will conduct special corridor studies to identify potential arterial and intersection deficiencies and capital improvement projects to mitigate these impacts. These special corridor studies will, at a minimum, identify the improvement, provide estimates of the costs of improvements, and identify potential funding mechanisms for implementation.

Prepare and submit to the County of Orange a CMP consistency report that at a minimum incorporates the CMP checklist requirements included in the *Orange County Congestion Management Program Preparation Manual 1992*.

Prepare a consistency review of the arterial highway system. This report will be submitted to the Orange County Transportation Authority (OCTA) and will document ongoing, annual efforts to achieve the requirements set forth in the *Measure M Growth Management Program Preparation Manual*, February, 1993.

¹ Detailed definitions and procedures are found in the *Measure M Growth Management Program Preparation Manual*, February, 1993.

DRAFT MASTER EIR

Examine the City's Signal Maintenance Program. Efficiency of the City's signals will be evaluated and adjustments recommended, as needed, to maximize transportation efficiency levels of service.

Provide an annual report detailing the City's implementation status of regional transportation policies. Include, at a minimum, the following information:

- based on ongoing monitoring, identification of roadway segments and intersections that exhibit unacceptable levels of service and needed improvements;
- an overview of the regional transportation related programs including:
 - the Southern California Association of Governments Regional Mobility Plan;
 - Orange County Congestion Management Plan; and
 - South Coast Air Quality Management Plan;
- recommendations for revisions to the Circulation element, as well as future programs.

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G. INFRASTRUCTURE

EXISTING SETTING

Water Service

The City of Laguna Hills and its sphere of influence obtain water service from the Moulton Niguel and El Toro Water Districts (MNWD and ETWD). Figure IV-G-1 delineates the boundaries of the two districts as they relate to the City.

Moulton Niguel Water District

The major portion of the City is within MNWD. MNWD operates and maintains 29 reservoirs, 29 pumping stations and roughly 700 miles of pipeline. It distributes an average of 36,000 acre feet of water per year to a population of approximately 124,000.

MNWD obtains 100 percent of its potable water supply from the Metropolitan Water District (MWD), primarily from the State Water Project and the Colorado River. Due to poor quality, no local groundwater sources are utilized.

Reclaimed water from two MNWD water treatment facilities is distributed to several golf courses and parks within the District. Installation of infrastructure to distribute reclaimed water has been concentrated in developing areas within the District, but outside of the city limits. The District plans to install the necessary infrastructure for reclaimed water distribution to the Nellie Gail and Moulton Ranch portions of Laguna Hills within the next five years. Eventually, the District hopes to reclaim up to 70 percent of its wastewater. This long-term goal will require expansion of existing sewage treatment facilities or construction of new facilities. Currently, no specific plans for expansion have been developed.

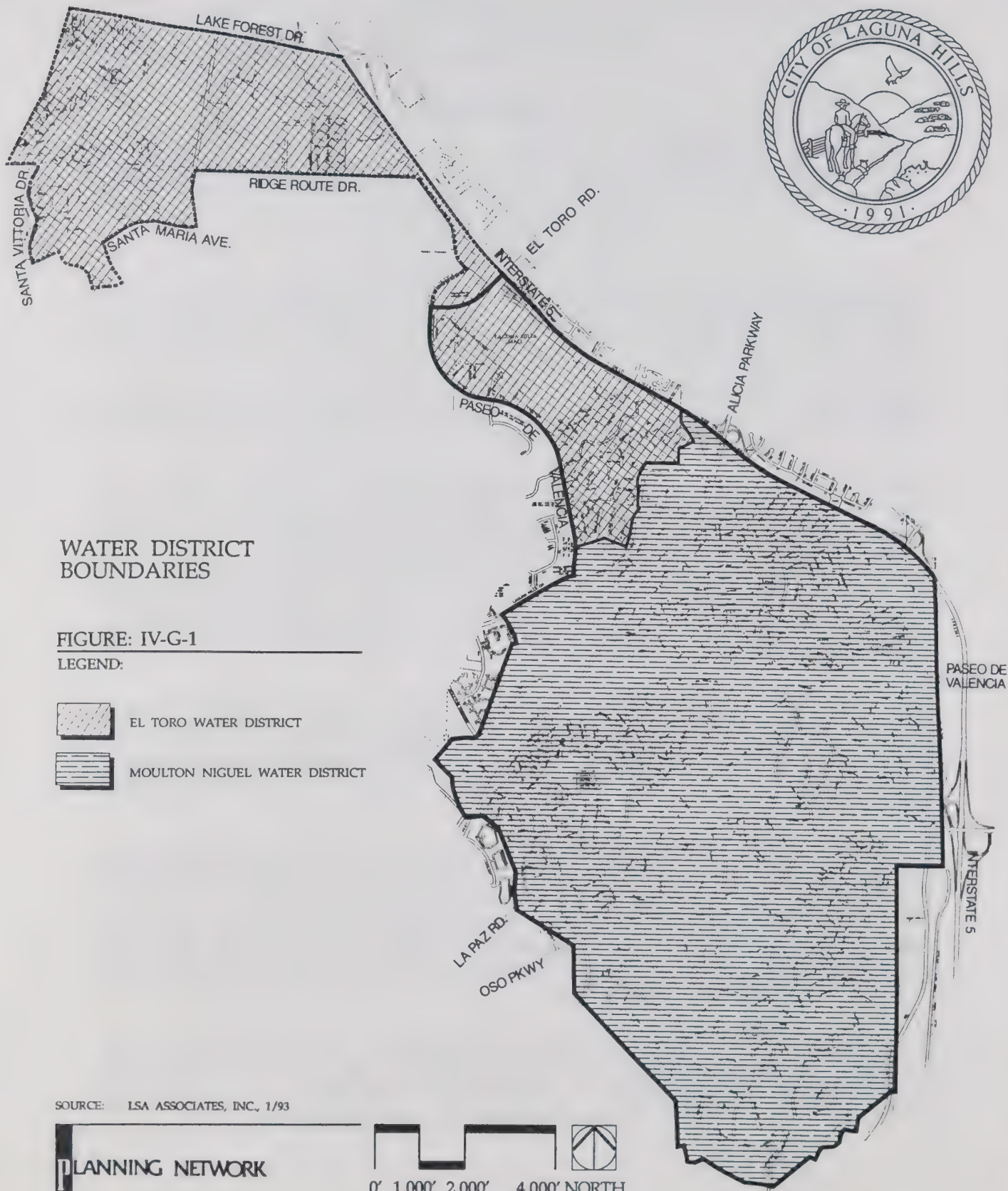
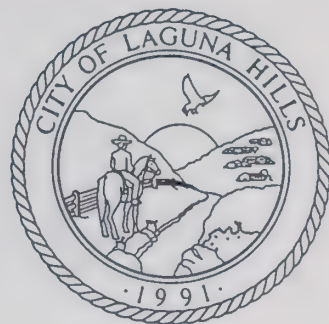
The City lies almost entirely within Improvement Districts No. 2 and 8 of MNWD. Water is distributed throughout the District by a network of underground water mains of various sizes. The City of Laguna Hills is almost entirely built out, and the distribution network is virtually complete. MNWD foresees no impact to existing levels of service from further development within the General Plan study area.

Facilities within the City include pump stations in the Nellie Gail and Moulton Ranch developments, at Bridlewood and Oso Parkway, at Paseo de Valencia and La Paz, and at Cabot and La Paz. Other facilities include a reservoir at Alicia Parkway and Paseo de Valencia and three reservoirs within the Nellie Gail development, which have a combined capacity of over nine million gallons. Because the District's storage and distribution system is integrated, the facilities within the City are not the only ones serving the City, nor do they serve the City exclusively. No new facilities or improvements to existing facilities are planned within the District.

MNWD uses a consumption factor of 185 gallons per capita per day, with a peaking factor of 1.9. This factor is used for residential land uses, the primary land use remaining to be developed within the Laguna Hills portion of the District. A commercial factor of 30 gallons per capita per day may be used; however, the residential factor is generally sufficient for planning purposes.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Fees collected from MNWD customers cover operating and maintenance costs. Capital improvement projects are financed by general obligation bonds. Connection fees from new development are put into a planning and construction reserve to fund projects such as water reclamation that are not covered by general obligation funds.

MNWD's water conservation efforts are concentrated in two areas: public education and wastewater reclamation. Wastewater reclamation efforts are described above. Public education efforts have included meeting with developers and other major irrigation users to discuss water conservation measures such as low-flow plumbing devices and water-conserving irrigation practices. In addition, information encouraging water conservation is frequently inserted into customers bills.

El Toro Water District

The northern portion of the City of Laguna Hills and the City's sphere of influence is within El Toro Water District (ETWD) (see Figure IV-G-1). The District distributes approximately 15 million gallons per day (mgd) to a population of 50,400. Roughly five percent of the daily demand (750,000 gallons per day) is delivered to the City of Laguna Hills.

ETWD obtains 100 percent of its potable water supply from MWD. It reclaims approximately 400 acre feet of effluent per year. The reclaimed water is used for irrigation purposes within Leisure World, west of the City.

ETWD maintains and operates a network of water and sewer lines that extends into the City and its sphere of influence. It does not maintain any reservoirs within the City or its sphere of influence. The only facilities improvements anticipated within the City or its sphere of influence are the modification and expansion of some facilities to accommodate the Laguna Hills Mall expansion.

In the past, ETWD has used the consumption factors shown in Table IV-G-1, below, for water facilities planning purposes.

**Table IV-G-1
ETWD Consumption Factors**

Land Use Type	Gallons Per Capita Per Day
Single Family	175
Commercial	2
Condominiums	150
Multi-Family	182
Mobile Homes	120

Source: LSA Associates, Inc., 1993.

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As noted previously, land within the boundaries of ETWD is essentially built out; therefore, basic infrastructure is in place, and adequate capacities for water and sewer service already exist. Therefore, the focus of attention by ETWD as one of the water purveyors to the City has shifted to maintaining the integrity of the systems, to continue to meet changing regulatory requirements and to anticipate possible redevelopment. The impact of future redevelopment (and, to a small degree, new development) is dependent on the nature of the redevelopment and its water and sewer demands.

ETWD staff has developed a Ten Year Plan that addresses the issues of maintenance, reliability and efficiency. Each year, as part of the budget preparation process, operations staff reviews the plan, determines the need for certain items and establishes priorities for projects included in the plan. The accounting staff then determines the sources of revenue to fund the projects.

A majority of the projects are funded from reserves accumulated from earnings of prior years. Occasionally a project will cost more than the reserves can comfortably absorb. Those projects are funded through the issuance of General Obligation Bonds or Certificates of Participation.

The District has a satisfactory credit rating and a comparatively low level of debt, some of which will mature in the next two to three years. The Ten Year Plan is a key element in the program of arranging financing for projects.

Wastewater

The City of Laguna Hills and its sphere of influence obtain sewer service from the Moulton Niguel and El Toro Water Districts (MNWD and ETWD). Refer to Figure IV-G-1 for the boundaries of the two districts as they relate to the City.

Moulton Niguel Water District

The major portion of the City is within MNWD Improvement District Nos. 2 and 8 (IDs 2 and 8). All sewer lines within the District are operated and maintained by the District. Most of the wastewater within the City flows by gravity. Lift stations located at Moulton and Alicia Parkways and Moulton and Oso Parkways provide the District with the option of sending wastewater to the MNWD 3A treatment plant, rather than the gravity fed Aliso Water Management Agency (AWMA) regional treatment plant.

Three wastewater treatment plants serve IDs 2 and 8: MNWD's 3A plant near Oso Parkway and Camino Capistrano, the AWMA regional treatment plant at Crown Valley Parkway and La Paz Road, and the Serra Regional treatment plant in Dana Point at Del Obispo and Pacific Coast Highway. The 3A and AWMA plants provide tertiary wastewater treatment; Serra provides secondary treatment. These three facilities are able to provide a combined wastewater treatment capacity of 1.66 mgd from IDs 2 and 8. Present usage from these IDs averages from 55 to 66 percent of capacity. Approximately 2.5 mgd of reclaimed water are produced at the 3A and AWMA treatment plants. Reclaimed water from the plants is used for irrigating several golf courses and parks within the District and landscaping along Interstate 5. Within the next two to three years, the 3A plant will be expanded to include on-site sludge handling (composting). Presently, sludge produced at 3A is trucked to the AWMA plant for composting at that facility.

MNWD uses a residential wastewater generation factor of 100 gallons per capita per day. Commercial and other land uses (a very minor proportion) are assigned a generation factor of 2,500 gallons per acre per day. The residential factor is generally sufficient for planning purposes within the District.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Fees collected from MNWD customers cover operating and maintenance costs. Capital improvement projects are financed by general obligation bonds. Connection fees from new developments are put into a planning and construction reserve to fund projects such as water reclamation that are not covered by general obligation funds.

El Toro Water District

The northern portion of the City of Laguna Hills and the City's sphere of influence are within ETWD. Generally, only those sewer lines located within the public right-of-way are owned and maintained by the District.

Wastewater flows through the District by gravity and pumping. The portion of the District within the City flows into the District's Aliso Creek Pumping Station zone. The portion within the sphere of influence flows to the Veeh Pumping Station zone. The District operates one sewage lift station within the City and one within the sphere of influence. Mathis Pumping Station is adjacent to Paseo de Valencia and Aliso Creek. Wastewater is lifted from the Mathis station to the Aliso Creek Pumping Station, where it flows by gravity to the District's reclamation plant. Veeh Pumping Station is adjacent to Santa Victoria Drive and Veeh Ranch Park. The only facilities improvements anticipated within the City or its sphere of influence are the modification and expansion of some facilities to accommodate the Laguna Hills Mall expansion.

The District operates a wastewater reclamation plant, located outside of the City of Laguna Hills. The plant provides secondary wastewater treatment. It has a design capacity of six mgd. Present flows are approximately five mgd. Approximately 400 acre feet of effluent per year are produced at the plant and used for irrigation purposes within Leisure World, west of the City.

Land within the boundaries of ETWD is essentially built out. Basic infrastructure is in place, and adequate capacities for water and sewer service are in place. The focus of attention has shifted to maintaining the integrity of the systems, to continue to meet changing regulatory requirements and to anticipate possible redevelopment. The impact of future redevelopment (and, to a small degree, new development) is dependent on the nature of the redevelopment and its water and sewer demands. In the case of the Laguna Hills Mall, the existing infrastructure is not adequate, and there will be at least a temporary impact on adjacent properties during construction of the necessary facilities.

ETWD staff has developed a Ten Year Plan that addresses the issues of maintenance, reliability and efficiency. Each year, as part of the budget preparation process, operations staff reviews the plan, determines the need for certain items and establishes priorities for projects included in the plan. The accounting staff then determines the sources of revenue to fund the projects.

A majority of the projects are funded from reserves accumulated from earnings of prior years. Occasionally a project will cost more than the reserves can comfortably absorb. Those projects are funded through the issuance of General Obligation Bonds or Certificates of Participation.

The District has a satisfactory credit rating and a comparatively low level of debt, some of which will mature in the next two to three years. The Ten Year Plan is a key element in the program of arranging financing for projects.

Using the MNWD worst case wastewater generation factor of 100 gallons per capita per day for residential uses, and 2,500 gallons per acre per day for commercial uses, the existing General Plan study area would generate approximately 4.3 million gallons of wastewater per day.

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Solid Waste

The City of Laguna Hills is served by two privately owned waste hauling companies, Waste Management of Orange County and Solag Disposal, Inc. Solid waste is transported to the Prima Deshecha Landfill, located approximately three miles easterly from the intersection of the San Diego Freeway and the Ortega Highway. The landfill is located in Prima Deshecha Canada, a canyon within the boundaries of unincorporated Orange County, the City of San Clemente, and the City of San Juan Capistrano.

Prima Deshecha Landfill opened in March 1976 as a Class II-2 landfill, and was reclassified as a Class III landfill, which is suitable for the disposal of non-hazardous and municipal waste, in 1989. The property is owned by the County of Orange, and the landfill is operated by the Orange County Integrated Waste Management Department (IWMD).

The landfill is open Monday through Saturday from 7 a.m. to 4 p.m. for public use, and from 7 a.m. to 5 p.m. for commercial haulers. The landfill currently accepts approximately 1,200 tons per day, or approximately 370,000 tons per year of non-hazardous municipal solid waste. The amount of refuse collected varies throughout the year depending on the season. IWMD is seeking a permit revision to accept up to 4,000 tons per day of non-hazardous municipal solid waste.

Based on solid waste generation factors of 8.5 pounds per day per residential unit, 5.0 pounds per day per 1,000 square feet of commercial uses, and 8.0 pounds per day per 1,000 square feet of industrial uses, the existing General Plan study area generates approximately 125,000 pounds, or 62.5 tons of solid waste per day.

Based on the existing landfill General Development Plan prepared by the County of Orange, with a capacity of 81,000,000 cubic yards and with present waste stream projections, the landfill is anticipated to have adequate capacity to serve the region through the year 2030.

Currently, IWMD is preparing a new General Development Plan EIR for the landfill. The capacity and site life projections may change with the new plan.

The State of California has enacted Assembly Bill (AB) 939, which has as its goal the reduction of solid waste directed to landfills by 25 percent by 1995 and 50 percent by 2000. Through compliance with this legislation, the useful life span of Orange County's landfill facilities will be extended. The City of Laguna Hills has prepared a Source Reduction and Recycling Element (SRRE), which will describes its program to comply with AB 939.

Curbside recycling, utilizing one large bin for unsorted recyclables, is presently available within the Waste Management service area. A pilot program within a portion of the Solag service area offers curbside recycling utilizing three stackable bins for plastic, aluminum and newspaper.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Telecommunications Facilities

The City of Laguna Hills is currently served by Pacific Bell for telephone along with Dimension Cable and Times Mirror Company for Cable Television.

PROJECT IMPACTS

Because the study area is essentially built out, distribution networks for storm flow, water, sewer, electricity and natural gas are well established. Most of these facilities have been built within the last 25 years to serve the build out condition and, therefore, are adequate to meet current and future needs. Potential density increases associated with the proposed Mixed Use and Village land use categories may require upgrading of existing infrastructure facilities in these areas. These facilities are described in more detail below.

Water Facilities

The impacts of growth consistent with the proposed General Plan on water facilities are discussed in the Infrastructure Section of the Municipal Facilities and Services chapter of the General Plan. According to Table V-1 in the Alternatives Section of the Master EIR, the City will demand approximately 5,385,535 gallons of water per day at build out, based on 220 gallons per day per dwelling unit, 200 gallons per day per 1,000 square feet of industrial space, and 110 gallons per day per 1,000 square feet of commercial/retail space.

Wastewater

The impacts of growth described in the General Plan to wastewater facilities are discussed in the Infrastructure Section of the Municipal Facilities and Services chapter of the General Plan. According to Table V-1 in the Alternatives Section of the Master EIR, the City will generate approximately 4,506,255 gallons of wastewater per day at build out.

Solid Waste

The impacts of growth described in the General Plan to solid waste facilities are discussed in the Infrastructure Section of the Municipal Facilities and Services chapter of the General Plan. According to Table V-1 in the Alternatives Section of the Master EIR, the City will generate approximately 65.4 million tons of solid waste per day at build out.

Telecommunications Facilities

The increase in population associated with the proposed General Plan will generate a commensurate increase in the demand for telephone, cable television, and other telecommunications services. Because of the relatively small population increases associated with the proposed General Plan, impacts associated with additional telecommunications facilities will be relatively minor and insignificant.

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MITIGATION MEASURES

(G.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of infrastructure services provided to existing development and as identified in box at right. Therefore, development projects within the City of Laguna Hills shall be required to:

- construct and/or pay for the new on-site capital improvements that are required to support the project;
- ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;
- be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and
- ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.

Mitigation Standards:

Flood Control and Storm Drainage: Adequate facilities to protect structures for human occupancy and major roadways from the 100-year flood.

Water: Adequate fire flow as established by the Orange County Fire Department, along with sufficient water storage for emergency situations and for maintenance of service pressures on an ongoing basis.

Wastewater: Unrestricted flow in sanitary sewers during average and peak conditions.

Solid Waste: Once weekly pick up of residential solid waste. Street sweeping as needed to meet NPDES requirements. Meet solid waste diversion goals of 25 percent by the year 1995 and 50 percent by year 2000.

MITIGATION MONITORING

Prior to approval of any new development or redevelopment project, the applicant shall review the proposed project with representatives of the individual service provider to determine whether all needed facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development are greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by the project.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The City of Laguna Hills shall provide an annual source reduction and recycling progress review that evaluates the effectiveness of source reduction and recycling programs both individually and collectively in diverting waste. The review will include, at a minimum, the following:

- the amount of waste that was diverted;
- status of all programs;
- summary of the success or failure of program implementation; and
- recommendations for necessary modifications to existing programs and suggestions for new programs to be adopted.

H. EDUCATIONAL FACILITIES

EXISTING SETTING

Saddleback Valley Unified School District

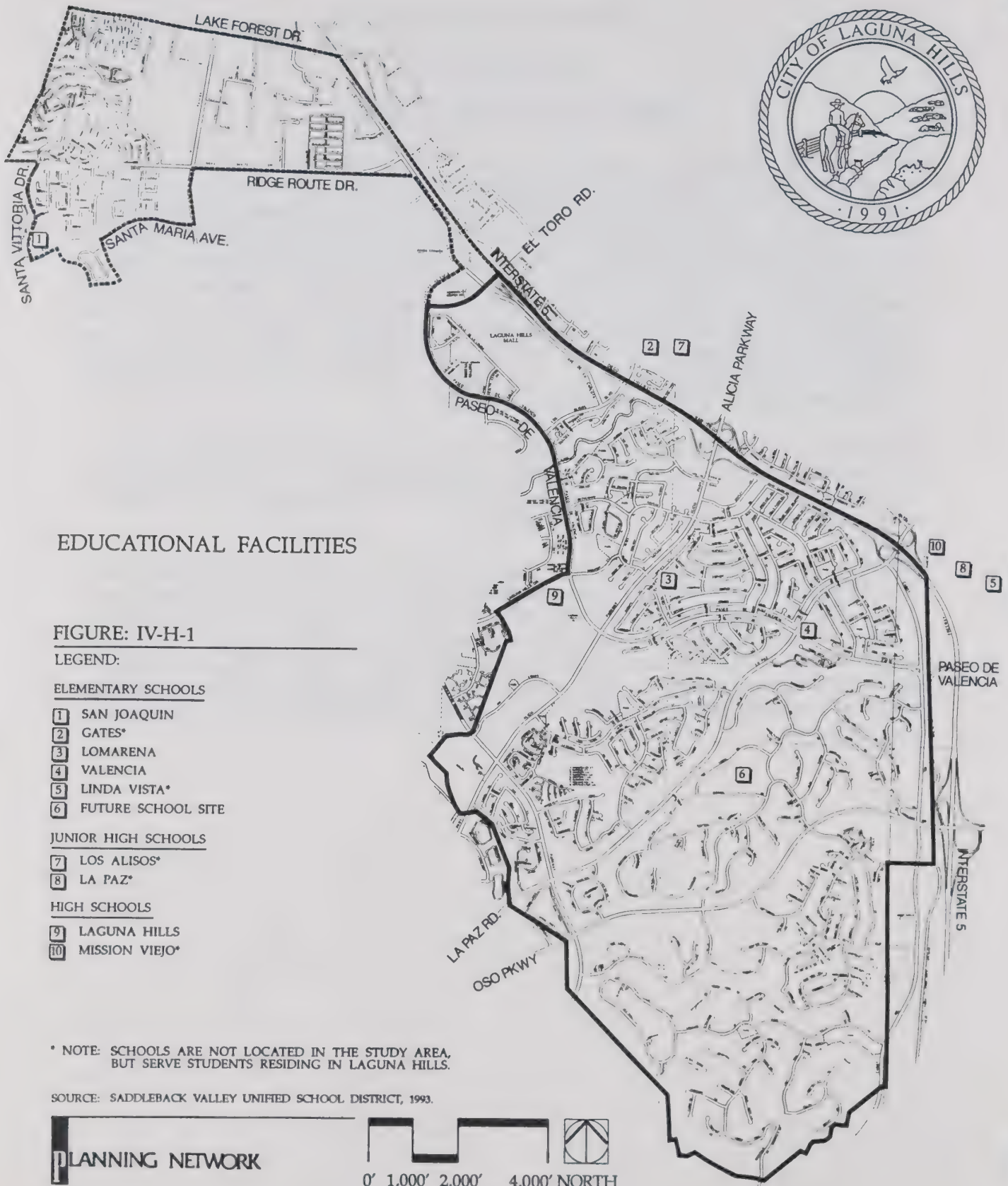
Schools serving students in the Laguna Hills General Plan study area operate under the Saddleback Valley Unified School District (SVUSD) (see Figure IV-H-1). The district's administrative office is located in Mission Viejo at 25631 Diseno Drive. The district operates 21 elementary, 3 junior high, and 3 high schools. Adult education is provided at Laguna Hills High School. SVUSD boundaries encompass the cities of Mission Viejo, Laguna Hills, El Toro, and the unincorporated community of Santa Margerita. The district boundaries also extend east on El Toro Road and include the communities of Foothill Ranch, Portola Hills and Trabuco Canyon. Students living in the City of Laguna Hills attend schools located within the SVUSD that are located in adjacent cities, as well as in Laguna Hills. The number of students attending classes outside the General Plan study area is unavailable from the district at this time. The district is currently revising its five year school facilities plan, which should be completed by June of 1993.

Tables IV-H-1 and IV-H-2 provide current student enrollment and capacities for elementary, junior high, and high schools serving students living in the City of Laguna Hills. Nearly all schools within the General Plan study area are operating at or above 90 percent of existing capacity, with San Joaquin Elementary operating at 105 percent of capacity.

SVUSD has plans for an additional elementary school, located in the southern portion of the General Plan study area in the Nellie Gail development at the northeast corner of Mustang and Red Corral Drive. This 20-acre site, which is currently owned by the district, is planned to be developed into a 10-acre elementary school site within the next three to five years. Information on the specific design and capacity of this school was not available from the district. Representatives of the school district indicate that the remaining 10-acre parcel will be sold for development at a later date. Further information regarding potential development plans for this remainder parcel were also not available from the district.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-H-1
Elementary School Enrollment/Capacity
1992-93 School Year

School Name	Enrollment ¹	Facility Capacity ²	Percent of Capacity	Portable Classrooms	Grades Served
Gates	663	713	93%	4	K-6
Linda Vista	820	912	90%	9	K-6
Lomarena	754	768	98%	4	K-6
San Joaquin	651	622	105%	5	K-6
Valencia	865	920	94%	6	K-6
Total	3,752	3935	95%	28	

Source: Saddleback Valley Unified School District, October 1992.

¹ Elementary Schools serve students residing in the City of Laguna Hills and students in other cities.

² Facility capacity includes permanent structures and portable classrooms.

Table IV-H-2
Secondary School Enrollment/Capacity
1992-93 School Year

School Name	Enrollment ¹	Facility Capacity ²	Percent of Capacity	Portable Classrooms	Grades Served
La Paz (Jr. High)	1,306	1,454	90%	14	7-8
Los Alisos (Jr. High)	1,173	1,413	83%	6	7-8
Laguna Hills (HS)	1,610	1,647	98%	15	9-12
Mission Viejo (HS)	1,790	2,274	79%	4	9-12
Total	5,883	6,788	87%	39	

Source: Saddleback Valley Unified School District, October 1992.

¹ Junior High and High Schools serve students residing in the city of Laguna Hills and students in other cities.

² Facility capacity includes permanent structures and portable classrooms.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-H-3, below, provides physical data for schools serving Laguna Hills students. School site size appears to be adequate to serve the needs of the General Plan study area, with elementary schools ranging in size from 9.2 to 11.5 acres, junior high schools ranging from 20.5 to 23.9 acres, and both Laguna Hills High School and Mission Viejo High School above 50 acres in size. As shown in Tables IV-H-2 and IV-H-3, Laguna Hills High School has more building square footage and less capacity than Mission Viejo High School. This is due to a larger number of classrooms at Mission Viejo High School, although each classroom size (square footage) is smaller than Laguna Hills High School. Although the General Plan study area contains a great deal of variance in topography, most schools within the General Plan study area have few site constraints, and can take full advantage of the open field areas. This fact may allow for opportunities to establish recreationally oriented joint use facilities with the City.

Table IV-H-3
School Site Characteristics

School	Grade	Acreage	Building Area ¹ (Sq. Ft.)	Year Constructed
Gates	K-6	11.5	29,630	1965
Linda Vista	K-6	10.6	30,479	1968
Lomarena	K-6	9.2	39,483	1974
San Joaquin	K-6	10.0	37,609	1974
Valencia	K-6	10.6	34,322	1970
La Paz	7-8	23.9	50,738	1969
Los Alisos	7-8	20.5	72,142	1972
Laguna Hills	9-12	51.8	177,582	1978
Mission Viejo	9-12	50.9	174,853	1965

Source: Saddleback Valley Unified School District, 1992.

¹ Building Area (Sq. Ft.) does not include portable classrooms located on school sites.

Student Generation

Tables IV-H-4 and IV-10 provide student generation factors for residential and non-residential development within the SVUSD.

CITY OF LAGUNA HILLS**DRAFT MASTER EIR**

Table IV-H-4
Residential Student Generation Factors

Square Feet/Housing Unit	Student Generation Factor
less than 2,000	0.3932
2,001 - 2,500	0.4324
2,501 - 3,000	0.4718
3,001 - 3,500	0.5112
3,501 - 4,000	0.5505
4,001 - 4,500	0.6291
4,501 - 5,000	0.7078

Source: CSA, June 1992

Table IV-H-5
Non-Residential Student Generation Factors

Land Use Type	Student Generation Factor
Office	0.0001573200
Retail	0.0000865260
Transportation	0.0000786600
Communication & Utilities	0.0000786600
Light Industrial	0.0001140570
Heavy Industrial	0.0000865260
Research & Development	0.0001219230
Warehouse	0.0000511290

Source: CSA, June 1992.

DRAFT MASTER EIR

Developer Fees

On September 30, 1992, Governor Wilson signed Senate Bill 1287. This bill became law on January 1, 1993. One of the provisions of this bill is the authority given to school districts to assess an "additional" \$1.00 per square foot on new residential construction. As of January 9, 1993, the following developer fees are being collected by the SVUSD for new construction.

- Residential:¹ \$2.65 per square foot
- Non-Residential: \$.27 per square foot

Cooperative Programs

Currently, the City of Laguna Hills and the SVUSD have no formal agreements for the joint use of school facilities. The amount of public involvement in local school activities appears to be high in the community. When asked "What characteristics make Laguna Hills a desirable community to live in," Targeted Interview respondents indicated that the quality of the local schools and local community support were deciding factors in choosing to live in the community. In support of this fact, the City has proposed and budgeted funds for the development of a new Little League Field at Valencia Elementary School, along with including the school district in City task force activities.

Colleges and Universities

Currently, there are no community colleges or universities within the General Plan study area. Secondary educational opportunities exist in adjacent communities within easy commuting distance. Colleges within a 15-mile radius of the General Plan study area include:

- the Art Institute of Southern California, Laguna Beach;
- Christ College Irvine, Irvine;
- Design Center South, Laguna Niguel;
- Irvine Valley Community College, Irvine;
- Saddleback College, Mission Viejo;
- Southern California College, Costa Mesa; and
- Orange Coast College, Costa Mesa.

¹ Prior to January 9, 1993, the District was collecting \$1.65 per square foot for new residential development.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Universities within a 20-mile radius of the General Plan study area include:

- Azusa Pacific University, Santa Ana;
- National University, Irvine;
- Pepperdine University-Irvine, Irvine;
- University of California-Irvine, Irvine; and
- University of Southern California (Graduate and Professional Studies), Irvine.

PROJECT IMPACTS

The impacts of the proposed General Plan on educational facilities are discussed in the Educational Facilities Section of the Municipal Facilities and Services portion of the General Plan. Using the current student generation factors at build out, the proposed General Plan would generate approximately 4,244 students or an increase of 217 students over existing conditions.

MITIGATION MEASURES

(H.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of educational facilities provided to existing development. Therefore, development projects within the City of Laguna Hills shall be required to:

- construct and/or pay for the new on-site capital improvements that are required to support the project;
- ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;
- be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and
- ensure that, in the event that capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.

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MITIGATION MONITORING

Prior to approval of any new development or redevelopment project, the applicant shall review the proposed project with representatives of the SVUSD to determine whether all needed facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

I. PARKS AND RECREATION

EXISTING SETTING

The City has 9 developed parks and 2 undeveloped park sites in its current system. The potential annexation area has 3 parks. Currently, all parks in the City and in the annex are neighborhood parks, serving their immediate residential area. The Laguna Hills parks typically include open play fields, walkways, and tot and/or elementary school aged play areas.

In addition to these park sites, there are 5 Irrevocable Offers of Dedication (I.O.D.s) parks that could be incorporated into the Laguna Hills park system. I.O.D.s are parks that were developed by the private companies for the development of residential complexes in the City. The various developers of these sites have offered them to the City for assumption of ownership and maintenance responsibilities.

The developed City parks range in size from 2 acres to 3.99 acres, for a total of 29.87 acres. One undeveloped park site is 1.5 acres, and the other site is 8.8 acres, for a total of 10.3 acres of undeveloped parkland. The 3 parks in the City's sphere of influence total 15.47 acres. The I.O.D. sites total 16.7 acres.

Maintenance

The City maintains the nine developed parks in Laguna Hills along with many slopes, parkways, and medians in the City. The City's current maintenance responsibilities, including the parks, are delineated on Figure IV-I-1, although these maintenance responsibilities will very likely expand in the near future. If the annexation campaign is successful, the three parks in this area will be maintained by the City. When the two unimproved park sites are developed, they will also be maintained by the City. And if any of the I.O.D. parks are incorporated into the park system, they too will become the responsibility of the City's maintenance team.

Regional Parks

Several regional parks are easily accessible to the residents of Laguna Hills. Regional parks frequently encompass large areas of land and may include special recreation features such as lakes, trails, and natural open space. These parks play an important part in providing a wider spectrum of recreation opportunities for the residents of Laguna Hills. Aliso Woods Canyons Regional Park and Laguna Niguel Regional Park are both located just south of the City boundary. O'Neill Regional Park, Salt Creek Corridor Regional Park, Crystal Cove State Park, Salt Creek Beach Park, Doheny State Beach Park, and Caspers Regional Park are additional regional recreation sites within a short drive from Laguna Hills.

Inventory

In the next few pages the City's parks and I.O.D. sites are listed, detailing the size, and location of each site. The charts also list the number for each park, which corresponds to the numbers on Figure IV-I-1. School sites also provide recreation opportunities for residents, so these facilities are listed after the park sites. In addition, private facilities in Laguna Hills play an important role in meeting recreation needs of the residents, so these facilities are also listed. Parks, schools, and private facilities in the Potential Annexation Area are listed separately. Figure IV-I-1, Existing Recreation Facilities, details in graphic form the location and features at each park, school site, and private recreation facility.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-I-1
Existing Park and Recreation Facilities - City

#	Site	Area	Location
1	Beckenham Park	2.75 acres	Camberwell Street and Costeau Street
2	Clarington Park	3.49 acres	Clarington Drive and Weyburn Drive
3	Costeau Park	3.67 acres	Costeau Street and Alicia Parkway
5	El Conejo Park	2 acres	El Conejo Lane and Calero Avenue
9	Knotty Pine Park	3.85 acres	Mackenzie Street and Knotty Pine Road
11	Mackenzie Park	2.85 acres	Mackenzie Street and Pike Road
12	Mandeville Park	3.34 acres	Mandeville Drive at Cult-de-Sac
13	Mendocino Park	3.93 acres	Mendocino Court and Aliso Hills Drive
17	Stockport Park	3.99 acres	Stockport Street and Wilkes Place

Source: City of Laguna Hills Master Plan Parks and Recreation, 1993.

Table IV-I-2
Existing Park and Recreation Facilities - Irrevocable Offers of Dedication

#	Site	Area	Location
7	Gallup Park	4.2 acres	Gallup Circle and Nellie Gail Road
8	Hidden Trail Park	2.5 acres	Hidden Trail Road and Stage Line Drive
4	Lomas Laguna H.O.A	2 acres	Laguna Court at Alicia Parkway
15	Moulton Ranch Park	7 acres	Bridlewood Drive and Laurel Crest
6	Fossil Park	1 acre	Via Lomas

Source: City of Laguna Hills Master Plan Parks and Recreation, 1993.

Table IV-I-3
Existing Park and Recreation Facilities - School Sites

#	Site	Area	Location
20	Lomarena Elementary	10 acres (7 Acres of Recreation Space)	Barents Street and Earhart Road
19	Valencia Elementary	10.6 acres (7.42 acres of Recreation Space)	Paseo de Valencia and La Paz
18	Laguna Hills High School	44.6 acres (31.22 acres of Recreation Space)	Alicia Parkway and Paseo de Valencia

Source: City of Laguna Hills Master Plan Parks and Recreation, 1993.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-I-4
Existing Park and Recreation Facilities - Private

#	Site	Area	Location
24	Dapple Grey Park	6.5 acres	Dapple Grey Drive & Nellie Gail Road
31	Moulton Park	1.8 acres	Moulton and Nellie Gail Road
28	Nellie Gail Swim Club		25281 Empty Saddle Drive
28	Nellie Gail Tennis Club		25281 Empty Saddle Drive
26	Nellie Gail Equestrian Center		25202 Nellie Gail Road
23	Laguna Hills Mall Cinema		Laguna Hills Mall
22	Bella Vista at Moulton Ranch H.O.A.		Bridlewood at Oso Parkway
29	Quail Creek H.O.A.		Quail Creek at Moulton
27	Nellie Gail Ranch H.O.A.	15 acres	Lost Colt Drive
21	Aliso Meadows	1 acre	Via Lomas at Alicia Parkway
25	Sunset Place H.O.A.		Sunset Place at Beckenham

Source: City of Laguna Hills Master Plan Parks and Recreation, 1993.

Table IV-I-5
Existing Park and Recreation Facilities - Potential Annexation Area Parks

#	Site	Area	Location
32	San Remo Park	1.6 acres	San Remo Drive and Taranto
33	Santa Vittoria Park	2.87 acres	Santa Maria Avenue and Santa Vittoria Drive
34	Veeh Park	11.0 acres	Santa Vittoria Drive and Caminito Grande

Source: City of Laguna Hills Master Plan Parks and Recreation, 1993.

Table IV-I-6
Existing Park and Recreation Facilities - Potential Annexation Area Schools

#	Site	Area	Location
	San Joaquin Elementary	10.0 acres (7 acres of Recreation Space)	22182 Barbera at Santa Vittoria

Source: City of Laguna Hills Master Plan Parks and Recreation, 1993.

March 31, 1994

CITY OF LAGUNA HILLS

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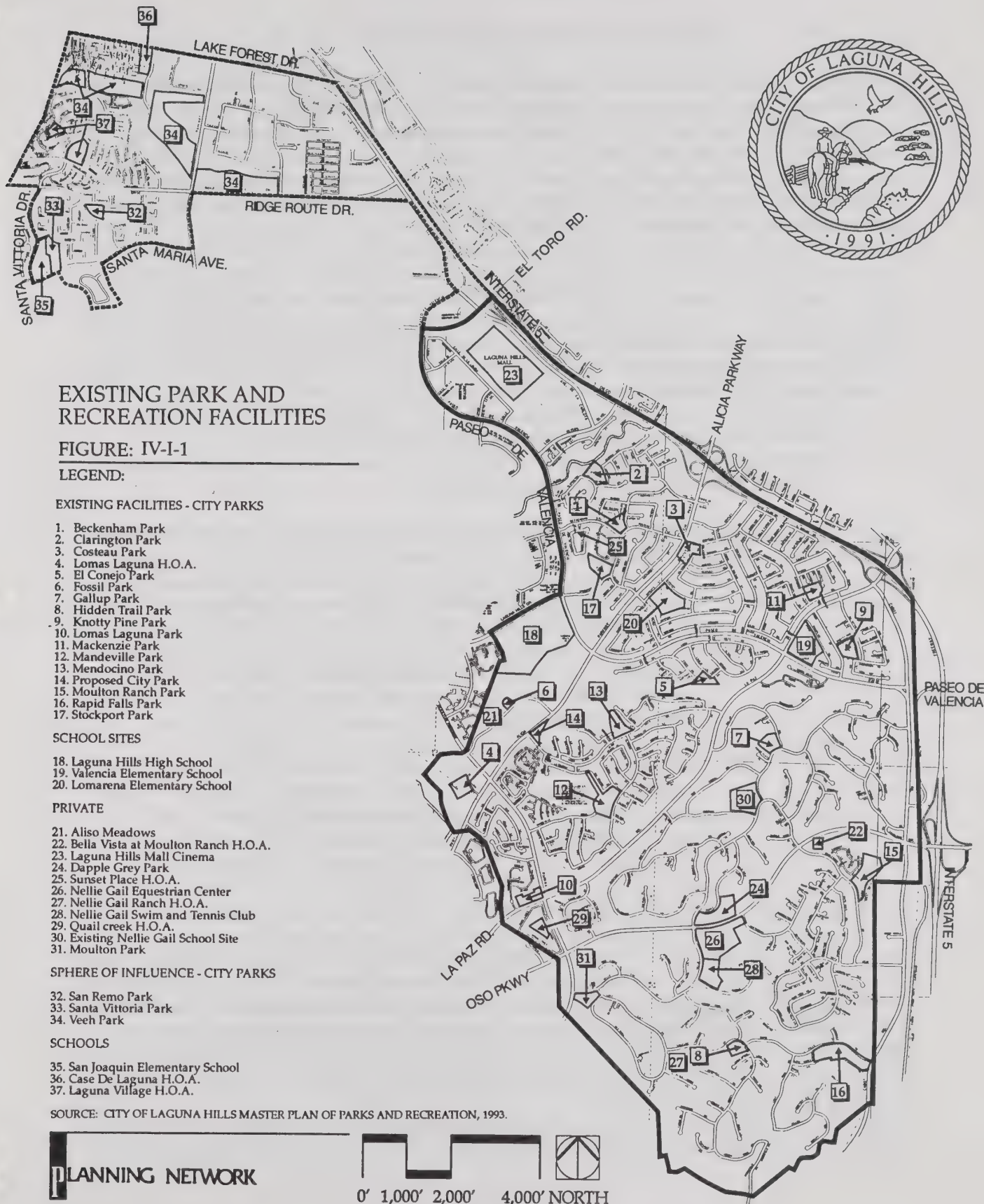
Table IV-I-7
Existing Park and Recreation Facilities - Potential Annexation Area - Private

#	Site	Area	Location
36	Case de Laguna H.O.A.		
37	Laguna Village H.O.A.		

Source: City of Laguna Hills Master Plan Parks and Recreation, 1993.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

PROJECT IMPACTS

The impacts of future development on parks and recreation facilities as proposed by the General Plan are discussed in the Park and Recreation Section of the Municipal Facilities and Services portion of the General Plan. Based on a general plan build out population of 29,111 and according to the needs analysis completed as part of the City's Parks Master Plan, there is a need within the study area for approximately 175 acres of parkland. The Parks Master Plan also indicates that, upon development of all available parkland, the Parks Master Plan standard of 6 acres of parkland per 1,000 residents will be exceeded, resulting in a 37.25 acre surplus.

MITIGATION MEASURES

- (I.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of committed park and recreation facilities and services provided to existing development and as identified in box at right. Therefore, development projects within the City of Laguna Hills shall be required to:

Mitigation Standard:

6 acres of active and passive parkland per 1,000 residents.

- construct and/or pay for the new on-site capital improvements that are required to support the project;
- ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;
- be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and
- ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.

MITIGATION MONITORING

Prior to approval of any new development or redevelopment project, the applicant shall review the proposed project with the Parks and Recreation Department to determine whether all facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by the project.

J. FIRE PREVENTION AND SUPPRESSION

EXISTING SETTING

Fire Department

The Orange County Fire Department provides contract fire protection services to Laguna Hills through three stations located in the cities of Laguna Niguel, Mission Viejo, and an unincorporated Orange County area. The Orange County Fire Department provides fire suppression services, emergency medical, rescue, and fire prevention services for the General Plan study area, the County and 15 contract cities. In addition, the Department provides emergency management, hazardous materials coordination, and weed abatement services to County government. Since assuming fire service delivery responsibilities from the California Department of Forestry in 1980, the Orange County Fire Department has become one of the largest regional fire service organizations in California. The Department is staffed with 855 career and 633 paid call (volunteer) personnel, and currently serves a population of approximately 800,000 residents in an area of 462 square miles.

Fire Department Administration, Facilities, and Equipment

Administration

The Orange County Fire Department is managed by an appointed Director of Fire Service, a Deputy Director, Four Assistant Directors, and subordinate safety and civilian managers. Service activities are organized into four bureaus (Operations, Fire Prevention, Support, and Administration), and one section (Strategic Planning). Each of these administrative functions can be described as follows.

- The *Operations Bureau* is responsible for the delivery of fire, emergency medical, and rescue services.
- The *Fire Prevention Bureau*, which includes the Hazardous Materials Program Office, coordinates all elements of the Department's fire prevention activities.
- The *Support Bureau* provides essential ancillary services to the following sections: Automotive and Material Management, Communications, Data Services, Emergency Medical Services, and Training.
- The *Administration Bureau* provides administrative support through the following sections: Administration, Financial Services, Personnel Services, and the Emergency Management Division.
- The *Strategic Planning Section* provides forecasting and analysis, strategic planning, operational evaluation, and analysis and monitoring of legislation.

Facilities and Equipment

All fire facilities and equipment serving the General Plan study area are housed in stations located in adjacent communities. Specific stations servicing the General Plan study area include the following.

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- *Fire Station #22* is located in an unincorporated portion of the County between Leisure World and the City of Laguna Hills at 24001 Paseo De Valencia, and serves the entire General Plan study area. Thirty-six firefighters per day in three shifts serve the General Plan study area from this station. There are two engines and one truck. In addition, there is a paramedic van staffed by two paramedics per shift. Due to its proximity to Leisure World, most of the emergency calls are medical in nature.
- *Fire Station #24* is located in the City of Mission Viejo at 25862 Marguerite Parkway, and provides fire protection services to the southern portion of the General Plan study area. The station is staffed with 15 firefighters per day in three shifts. In addition to permanent staff, there are 30 paid call (volunteer) firefighters available on short notice. The station is equipped with two fire engines, a paramedic van (staffed by two paramedics per shift), and one brush engine for fighting brush fires.
- *Fire Station #39* is located in the City of Laguna Niguel at 24241 Avila Road, and provides fire protection services to the western portion of the General Plan study area. The station is staffed with nine firefighters per day, in three shifts. The station is equipped with a single fire engine.

Wildland and Urban Fire Hazards

Wildland Fires

Local variations in topography and the abundance of native plant material such as chaparral and ruderal vegetation found in canyons and along hillsides make the area highly susceptible to wildland fire hazards. The many scenic canyons and hillsides that wind through developments within the southern portion of the General Plan study area can also create potential access problems for fire suppression efforts.

The General Plan study area also provides a unique mix of natural hillsides and canyons combined with urban development. Although such a combination creates a pleasant setting for a community, it has the potential to create unique fire hazards. Homes located in narrow canyons or saddles, for example, can be especially fire prone because of the existence of "natural chimneys" in these areas where winds are funneled into the canyons and eddies. Studies have also shown that homes located where a canyon meets a ridge are more likely to burn than other ridge top homes. Variations of these conditions exist in the southern half of the General Plan study area. Representatives of the Orange County Fire Department, however, have indicated that past incidences of urban structures being threatened by natural areas have been few. Still, the City and applicable Homeowner Associations, and homeowners who own property or live in such areas should take extra precautions due to the threat of fire.

Urban Fires

The most common type of urban structural fire occurs in single family dwellings. These fires are primarily caused by unsafe practices, such as falling asleep while smoking, kitchen fires from the ignition of cooking oil, or children playing with matches or fireworks.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

General Plan study area land uses include multi-story developments and large buildings that require specialized fire fighting capabilities and apparatus. In order to organize the threat of such developments, the Orange County Fire Department has identified five primary fire target hazard areas, generally located in the northern portion of the City. They include Laguna Hills Mall, Saddleback Valley Hospital, Villa Valencia, the Taj Majal Building, and the Home Savings and Loan Building.

Public facilities, such as churches, schools, theaters, and restaurants, are a special category of fire threatened structures. Due to the nature of their use, fires at these locations could threaten large numbers of persons. For this reason, these types of facilities generally have more stringent fire safety requirements; however, unsafe practices, disrepair, or vandalism (arson) can still produce a considerable threat, even to well-designed structures.

Fire suppression constraints within the General Plan study area also include the local arterial street system. At peak hours, congestion along these roadways makes it difficult for emergency personnel to respond to emergency calls. The Orange County Fire Department has identified two corridors within the City, El Toro Road and Moulton Parkway, that have become extremely difficult to traverse during peak traffic hours. The use of traffic pre-emptions (a mobile device used to control the traffic lights along a road corridor) along such corridors would assist in decreasing emergency response times and provide increased safety for the general public and emergency personnel.

Fire Prevention Programs and Response Standards

Fire Prevention

The Orange County Fire Department regularly conducts various fire prevention activities within the City of Laguna Hills. These include promotion of an Annual Fire Prevention Week, where the public is invited to visit any one of the local fire stations in the community; participation in City-sponsored community events and functions; daily fire station tours that are available to individuals and civic groups; and Junior Firefighter fire safety/injury prevention classes for elementary school students. In addition, the County Fire Department provides injury prevention and fire safety programs to businesses, community associations, homeowners, and licensed day care providers, and conducts home safety seminars and babysitter clinics.

The County Fire Department conducts inspections on all occupancies within the General Plan study area. To maximize resources, most fire safety and code enforcement inspections of businesses and multi-tenant occupancies are performed by engine, truck, and paramedic companies. Fees for this service vary depending on the number of inspections made to any one occupancy. The ultimate objective of the fire department inspection program is to gain compliance with the requirements set forth in all applicable fire codes adopted by the City.

Hazardous Materials

The Orange County Fire Department has implemented a Hazardous Materials Disclosure Program (HMDP) which provides information regarding the location, type, and health risks of hazardous materials to emergency response personnel and to the public and assists in mitigating risks associated with the use of hazardous materials in the community.

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Hazardous Materials Disclosure Office personnel conduct an inventory program of all hazardous materials stored, handled, and used within Orange County Fire Department's jurisdiction, and maintain related information on a data base accessible to all emergency response agencies in the event of a major emergency. Currently, no land uses have been identified in the Laguna Hills General Plan study area as using, generating, or storing large amounts of hazardous and/or flammable materials.

Disaster Response

Currently Orange County Fire Department participates in the Orange County Emergency Plan for response to disaster events. In the event of a major disaster, a pre-selected emergency management staff made up of representatives of all participating agencies would be brought into action. The management staff would be coordinated by an Operational Area Coordinator from a County designated Emergency Operations Center. Specific Fire Department responsibilities outlined in the Plan include Recovery and Reconstruction, Emergency Communications, Alert and Warning, Radiological Protection, Fire and Rescue Operations, Law enforcement and Traffic Control Operations, Medical Operations, Public Health Operations, Coroner Operations, Care and Shelter Operations, Movement Operations, and Construction, Engineering and Utilities Operations.

Emergency Response and Service Standards

Emergency Response

According to the County Fire Department's activity report for Laguna Hills (Table IV-J-1), 56 percent of emergency service calls are for rescue. The second largest category of calls (21 percent) are "good intent" calls, which are calls that are similar to a false alarm call, only made with good intention. The number of calls made for fire service in Laguna Hills is consistent with the number of calls for fire service in other cities.

During 1992, the Orange County Fire Department responded to a total of 1,028 calls, or 44.56 calls per 100 capita within the City of Laguna Hills. Of this, approximately 56 percent (or 574 calls) were for medical aid and rescue (see Table IV-J-1). This is considered average in comparison to other south Orange County cities (Laguna Niguel 53.8 percent, Lake Forest 55.8 percent, Mission Viejo 56.8 percent, Dana Point 57.0 percent, and Irvine 47.7 percent).

Service Standards

The Orange County Fire Department currently maintains a ratio of .78 firefighters for each 1,000 residents within the General Plan study area. The Orange County Fire Department maintains a maximum response time goal of 5 minutes (10 minutes for paramedic service) to 80 percent of the City. Currently, the Orange County Fire Department is meeting this goal, but is continually evaluating response data in an effort to improve overall fire service.

CITY OF LAGUNA HILLS

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Table IV-J-1
County Fire Department Responses
in Laguna Hills and Surrounding Cities
Year-to-Date as of October 31, 1992

	Laguna Hills*		Laguna Niguel		Lake Forest		Mission Viejo		Dana Point		Irvine	
Population	24,514		50,209		58,260		75,319		33,165		114,346	
Total Calls per 1,000 Capita	41.93		31.20		34.89		35.10		48.57		46.87	
Categories	#	%	#	%	#	%	#	%	#	%	#	%
Fire Explosion	61	5.9	104	6.6	134	6.6	198	7.5	97	6.0	292	5.4
Over-Pressure Rupture	2	0.2	5	0.3	6	0.3	8	0.3	0	0.0	25	4.7
Rescue EMS	574	56	843	53.7	1,135	55.8	1,503	56.8	917	57	2,557	48
Hazardous Conditions Stand By	44	4.3	32	2.0	71	3.5	66	2.5	34	2.1	104	1.9
Service Call	63	6.0	157	10.0	120	5.9	218	8.3	120	7.5	314	5.8
Good Intent Call	216	21.0	284	18.3	454	22.3	475	17.9	341	21.4	1,229	22.9
False Call	65	6.3	138	8.8	108	5.3	163	6.2	96	5.6	829	15.4
Natural Disaster	1	0.1	1	0.1	0	0.0	0	0.0	1	0.0	1	0.0
Other	2	0.2	3	0.2	5	.3	13	.5	5	.4	9	0.1
Total	1,028	100	1,567	100	2,033	100	2,644	100	1,611	100	5,360	100

Source: Orange County Fire Department, October 1992.

* Laguna Hills does not include the unincorporated portion of the General Plan study area.

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According to the County Fire Department, there are no water flow deficiencies (from fire hydrants) in Laguna Hills. Fire hydrant flow and pressure requirements vary throughout the City, and are normally determined by size, type of construction, and zoning requirement. Currently, the City does not have a fire sprinkler ordinance, but in cooperation with the Orange County Fire Department, the City will adopt the most recent regulations of the Uniform Fire and Building Code through specific City ordinances. The Uniform Fire and Building Code has major amendments requiring automatic fire extinguishing systems in new commercial and industrial buildings exceeding 6,000 square feet and in all apartments.

PROJECT IMPACTS

Impacts of anticipated future development on fire prevention and suppression are discussed in the Fire Prevention and Suppression Section of the Municipal Facilities and Services portion of the General Plan. At build out of the General Plan study area including the proposed Urban Village Area, there will be a need for 23 firefighters (an increase of only one fire fighter), as shown in Table V-1 in the Alternatives Section of the EIR.

MITIGATION MEASURES

(J.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of fire prevention and suppression services provided to existing development and as identified in box at right. Therefore, development projects within the City of Laguna Hills shall be required to:

- construct and/or pay for the new on-site capital improvements that are required to support the project;
- ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;
- be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and
- ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.

Mitigation Standards:

Fire Suppression (first unit): Engine and crew (3 personnel) within 5 minutes in 90 percent of incidents.

Fire Suppression (all necessary resources): Arrival of all units within 10 minutes in 90 percent of incidents.

Emergency Medical Service (basic life support): Arrival of fire company within 5 minutes at 90 percent of incidents.

Emergency Medical Service (advanced life support): Arrival of advanced life support within 10 minutes at 90 percent of incidents.

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- (J.2) Roadways and internal circulation systems shall be designed to accommodate fire suppression equipment with adequate turnaround areas, as determined by the Orange County Fire Department.
- (J.3) All new development shall be provided with the water facilities needed to meet fire flow requirements as determined by the Orange County Fire Department.

MITIGATION MONITORING

Prior to approval of any new development or redevelopment permit, the Development Services Department shall review the proposed project with representatives of the Orange County Fire Department to determine whether all facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development are greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.

Conduct an annual review of local and areawide facilities and services, which includes:

- evaluating adequacy of facilities and equipment; personnel staffing and program needs; and five year equipment, facility, and staffing needs based on anticipated growth and desired level of service.
- review of infrastructure plans of other agencies, districts, and special districts for consistency with General Plan Goals and Strategies pursuant to State Government Code Section 65401.

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K. POLICE SERVICES AND CRIME PREVENTION

EXISTING SETTING

Orange County Sheriff's Department

The Orange County Sheriff's Department provides contractual police services for the City of Laguna Hills and seven other cities, as well as serving as the police force for all of the unincorporated area of Orange County. Police services include patrol services and traffic enforcement, detective, accident investigations, and support services.

Sheriff's Department Administration

Orange County Sheriff's Department personnel assigned to provide police services to the City of Laguna Hills include a Captain, Lieutenant, Patrol Sergeant, Deputy Sheriffs, Traffic Officers, Investigator, Community Service Officer, Crossing Guards, and Clerical Support. According to the contractual agreement with the City of Laguna Hills, these positions have the following duties and responsibilities.

- **Lieutenant:** Functions as a police manager to allow the City direct access to management of the Sheriff's Department. The position serves as an "on-site" department head, and provides liaison services through daily contact with the various City departments. Additional responsibilities include attendance at City council and traffic committee meetings, review of environmental impact reports, coordination of special events, public speaking engagements, and functioning as the police services representative at civic events.
- **Field Supervisor:** A patrol sergeant is the immediate field supervisor of the patrol force. This supervisor is on duty and in the field with the City's deputies. Personnel in this position direct, plan, coordinate, and provide training for the City patrol deputies. This position also provides coordination at the scene of major events between the various specialty units in the field.
- **Patrol Services:** Patrol duties include immediate response to emergencies, response to calls for service, high profile patrol, crime prevention, and documentation of events.
- **Traffic Services:** Traffic units are staffed and deployed in a similar manner as the patrol services. Traffic units work various hours to cover peak traffic enforcement periods. As an enforcement tool, the traffic units can be equipped with a radar system. The traffic units also handle the serious traffic collisions and those presenting a potential risk to the City.
- **Investigative Services:** Investigators' responsibilities include crime investigations, and coordination of crime prevention programs. Services include back up and specialized investigative services to meet demands created by unusual or complicated investigations such as homicide, vice, fraud, narcotics, safe burglary, rape, and major robbery investigations.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

- **Crossing Guards:** Crossing guards include part-time positions filled by members of the community. These personnel are responsible to oversee traffic and pedestrian flow at designated intersections, during school hours, throughout the City.
- **Other Police Services and Support Units:** As a police service contractor to the City, the Sheriff's Department can provide additional law enforcement and public services to the General Plan study area in addition to those mentioned above. These additional services include the following.

Hazardous Devices Squad	Hostage Negotiations
Canine Patrol	Mounted Patrol
Helicopter Response	Tactical Support Team
Central Records	Gang Enforcement Team
Forensic Science Services	Community Feedback Program
Reserve Forces	Special Events Coordination
Explorer Post	Custody Facilities
Crime Prevention Programs	Vice/Dignity Protection
Fugitive Warrant Service	Public Speaking Bureau
Prisoner Transportation	Recruit Training
Cliff Rescue Team	Personnel Division
Dive Team	Administration Division
Coroner	

Laguna Hills Police Facilities, Staffing and Equipment

The City is served by a Sheriff's substation located at 30331 Crown Valley Parkway in the City of Laguna Niguel. There are a total of 28 officers, including:

- 1 part-time police chief;
- 5 part-time sergeants;
- 19 full-time deputies (14 are assigned exclusively to patrol duty);
- 2 full-time general investigators;
- 1 full-time Community Service Officer;
- 1 part-time office assistant; and
- 3 part-time school crossing guards.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The officer/population ratio is 1.2 sworn officers per thousand persons, which is considered "very good" for urban areas. In addition, there are two traffic investigative deputies and two investigative aides shared with the City. All sworn officers provide law enforcement services exclusively within the City of Laguna Hills, with the exception of the police chief and sergeants, who work part-time in the City of Laguna Hills and part-time within other areas of the County, west of I-5.

Since the City's incorporation, all patrol vehicles have been marked with the Laguna Hills insignia on the side of each vehicle. There are ten marked patrol cars,¹ and two unmarked vehicles reserved for the police chief and two investigators. The emergency response time goal to any location within the City is a maximum of 5 minutes, which is considered acceptable. Patrol boundaries are not static, and overlap is common. The City is generally divided into three primary beats as follows:

- Northern Study Area, including areas north of Paseo De Valencia;
- Central Study Area, including areas between Paseo De Valencia and Oso Parkway; and
- Southern Study Area, including areas south of Oso Parkway.

Police Activity and Incidence of Crime

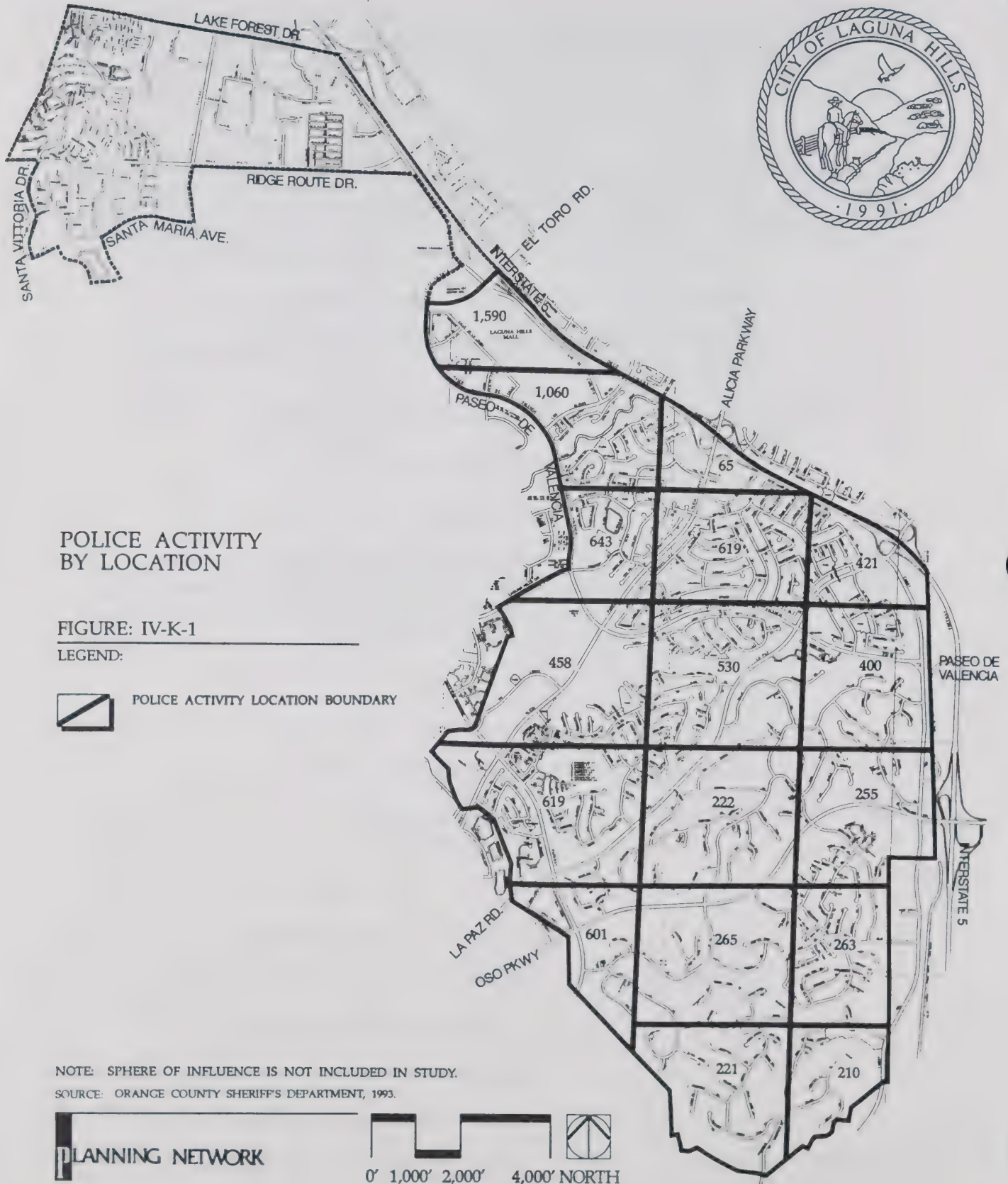
Police Activity

Figure IV-K-1 graphically depicts the number of police calls throughout the City in 1991. Over 31 percent of all police activity occurred in and around the Laguna Hills Mall. The balance of Figure IV-K-1 shows a declining number of calls in the southern portion of the City. The four southern most grids have a total of 959 events, or 11 percent of the City's total.

¹ Each patrol car is equipped with a fixed video camera and audio monitor.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-K-1
Criminal Offenses¹
1987 through October, 1992

Criminal Offense	1987	1988	1989	1990	1991	1992
Homicide	0	0	0	1	1	1
Rape	3	1	8	4	2	8
Robbery	19	29	25	15	20	36
Assault (ADW) ²	20	18	36	49	46	85
Burglary (Residential)	205	225	227	219	235	221
Burglary (Non-Residential)	180	91	206	186	207	196
Grand Theft	86	154	66	76	93	80
Auto Theft	101	108	114	108	135	116
Total	614	726	682	658	739	743

Source: Orange County Sheriff's Department, 1992.

¹ Statistics do not include the City's sphere of influence area.

² ADW is an assault with a deadly weapon.

Incidence of Crime

In general, criminal acts committed in Laguna Hills are aimed at property, rather than at persons (see Table IV-K-1). It is also apparent from recent statistics that crime in the area has been on the increase in recent years, with theft being the most common serious crime committed. According to the Sheriff's Department, during 1991, prior to the City's incorporation, the northernmost portion of the City accounted for 31 percent of all police calls. Many of those calls were for automobile thefts that occurred within the Laguna Hills Mall area.

Traffic Accidents

As shown in Table IV-K-2, traffic accidents most frequently resulted in damage to property, followed by injury to persons, and hit/run property damage. As shown in Table IV-K-3, the largest number of traffic accidents occurred at the intersections of Alicia Parkway and Paseo de Valencia, Cabot Road and Oso Parkway, Cabot Road and La Paz, La Paz and McIntyre Street, and Los Alisos and Avenida de la Carlota.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-K-2
Traffic Data 1991 - 1992

Type of Accidents	1991	January to June, 1992 ¹	July to December, 1992
Fatal	3	0	1
Injury	155	67	44
Hit/Run Injury ²	NA	5	4
Hit/Run Property Damage ³	NA	12	32
Property Damage	278	101	72
Private Property	NA	NA	28
Total	436	168	181

Source: Orange County Sheriff's Department, October 1992.

¹ The California Highway Patrol provided traffic services to the City prior to June 30, 1992.

² Hit/run injury accidents are included in the total number of injury accidents.

³ Hit/run property damage accidents are included in the total number of property damage accidents.

Table IV-K-3
Intersection Activity

Intersection	Accidents	Index ¹
Avenida de la Carlota @ El Toro Road	77	1.61 ²
La Paz Road @ McIntyre Street	33	1.49 ²
Alicia Parkway @ Paseo de Valencia	46	.85
Alicia Parkway @ Costeau Street	33	.84 ²
Laguna Hills Drive @ Paseo de Valencia	28	.80 ²
Cabot Road @ La Paz Road	24	.79
El Toro Road @ Paseo de Valencia	40	.71 ²
Alicia Parkway @ Moulton Parkway	32	.59
Alicia Parkway @ Hon Avenue	22	.56 ²
Moulton Parkway @ Oso Parkway	21	.54
La Paz Road @ Moulton Parkway	23	.49
Ericson Way @ Paseo de Valencia	9	.46
Cabot Road @ Oso Parkway	14	.43
El Toro Road @ Regional Center Drive	12	.38 ²

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-K-3
Intersection Activity

Intersection	Accidents	Index ¹
Paseo de Valencia @ Via Estrada	11	.37 ²
Avenida de la Carlota @ Los Alisos Boulevard	17	.36 ²
Cabot Road @ Paseo de Valencia	7	.34 ²
Calle de Magdalena @ Paseo de Valencia	10	.33 ²
Moulton Parkway @ Via Lomas	11	.33 ²
Beckenham Street @ Paseo de Valencia	11	.31 ²
La Paz Road @ Paseo de Valencia	10	.31
Alicia Parkway @ I-5 southbound on/off	17	.29 ²
Aliso Hills Drive @ La Paz Road	6	.27 ²
Bridlewood Drive @ Oso Parkway	5	.24 ²
Los Alisos Boulevard @ Paseo de Valencia	13	.24 ²
Alicia Parkway @ Ramona Street	4	.22 ²
Nellie Gail Road @ Oso Parkway	4	.20
Alicia Parkway @ Laguna Court	3	.17 ²
Calle de Caballero @ Paseo de Valencia	7	.17 ²
Alicia Parkway @ Aliso Hills Drive	5	.16 ²
Cabot Road @ Rapid Falls Drive	2	.14 ²
Kennington Drive @ Paseo de Valencia	4	.11 ²
Moulton Parkway @ Nellie Gail Road	3	.11 ²
Charlton Drive @ La Paz Road	2	.10 ²
Gallup Circle @ La Paz Road	2	.09 ²
Alicia Parkway @ Paseo de Alicia	3	.08 ²
Alicia Parkway @ Bentley Lane	2	.06 ²
Avenida Sevilla @ Paseo de Valencia	2	.06 ²
El Toro Road @ I-5 southbound on/off	2	.04 ²
Alicia Parkway @ Wilkes Place	5	.01 ²

Source: City of Laguna Hills, 1993

¹ Index is based on number of accidents per million entering vehicles.² Indicates one or more L_{eq} volumes estimated.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Based on the record of patrol activity shown in Table IV-K-4, citation arrests accounted for approximately 64.5 percent of all arrests made during 1992, followed by misdemeanor (12 percent) and felony (11.9 percent) arrests.

Table IV-K-4
Patrol Activity 1992

Type of Patrol Activity	Number	Percent
Assignments	11,403	79.0
Observations	1,352	9.4
Field Interviews	91	0.6
Recovered Vehicles	18	0.1
Stored Vehicles	284	1.9
Warrant Arrests	149	1.0
Citation Arrests	843	5.8
Felony Arrests	155	1.1
Misdemeanor Arrests	159	1.1
Total	14,454	100.0

Source: Orange County Sheriffs Department, 1992.

PROJECT IMPACTS

The impacts of the General Plan on police services and crime prevention are discussed in the Police Services and Crime Prevention Section of the Municipal Facilities and Services portion of the General Plan. As shown in Table V-1 in the Alternatives Section of the Master EIR, 35 officers (an increase of only one officer) will be needed to serve the needs of Laguna Hills at build out of the study area, including the proposed Urban Village Area, based on a desired staffing ratio of 1.2 law enforcement officials per 1,000 residents.

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MITIGATION MEASURES

(K.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of police services and crime prevention services provided to existing development and as identified in box at right. Therefore, development projects within the City of Laguna Hills shall be required to:

Mitigation Standard:

A five (5) minute average response time for emergency calls. Provision of preventative patrol time at a rate of between 40 percent and 50 percent of an officer's workday.

- construct and/or pay for the new on-site capital improvements that are required to support the project;
- ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;
- be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and
- ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.

(K.2) The City of Laguna Hills shall require that all new developments, other than a single family home being constructed on an individual lot, provide on-site security during construction, commensurate with the scale of the development and level of risk, as a means of preventing potential theft and vandalism.

(K.3) Crime shall be discouraged through the incorporation of "defensible space" concepts into the design of dwellings and structures as outlined in Table IV-K-5.

MITIGATION MONITORING

Prior to approval of a development permit, the Development Services Department shall review the proposed project with the Laguna Hills Police Department to determine whether all facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development are greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.

Conduct an annual review of local and areawide facilities and services, which includes:

- evaluating adequacy of facilities and equipment; personnel staffing and program needs; and five year equipment, facility, and staffing needs based on anticipated growth and desired level of service.

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- review of infrastructure plans of other agencies, districts, and special districts for consistency with General Plan Goals and Strategies pursuant to State Government Code Section 65401.

Table IV-K-5
Defensible Space Mitigation Standards

Residential Uses

Provide well lighted and visible streets and street names, entrances, and house numbers within urban areas; within rural areas provide lighted house numbers.

Provide visually well defined separation between public and private areas.

Place windows so as to allow easy resident surveillance of yards, corridors, entrances, parking areas, streets, and other public and semi-public places.

Provide landscaping that permits surveillance of open areas and entryways, and does not create places for concealment.

Within multifamily projects, eliminate undefined hallways, especially double-loaded corridors shared by large numbers of families.

Within multifamily projects, design entries and circulation corridors so that as few families as possible share a common lobby, facilitating the recognition of strangers.

Within multifamily projects, provide well lighted and, where possible, windowed apartment stairwells.

Within multifamily projects, limit access into and between buildings so escape routes are fewer and undetected entrances are more difficult.

Commercial and Business Park Uses

Design landscaping, buildings, and wall locations to facilitate surveillance from the street and from neighboring structures, without providing places for concealment.

Design the street system and driveways to allow emergency vehicle access around buildings, to the greatest extent possible.

Locate parking and walkways where surveillance from streets or by an attendant is possible to reduce worker or customer isolation when walking to and from cars.

Keep first floor windows to a minimum, make such windows burglar resistant, and/or place them so as to promote surveillance from adjacent streets.

Limit access to buildings or building groups, as well as access between buildings, so escape routes are fewer and undetected access to buildings is made more difficult.

Eliminate the potential for access to roofs by pallets, flag poles, etc.

Where possible, design areas so that they can be sealed off when not in use.

Install alarm systems on a zone basis so that the entire area does not need to be sealed off in an emergency.

Provide adequate illumination of street names and building numbers for easy identification.

Design facilities to promote surveillance from streets and nearby buildings.

Provide adequate lighting.

Source: Planning Network, 1993.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

L. EMERGENCY SERVICES AND FACILITIES

EXISTING SETTING

Hospitals

The General Plan study area is now served by a total of 461 beds at two hospitals. Area hospitals include the Saddleback Memorial Medical Center in Laguna Hills and Mission Hospital in the City of Mission Viejo. A description of the facilities offered by these hospitals is included in Table IV-L-1.

Table IV-L-1
Area Hospital Services

Hospital	Location	Available Beds	Number of Physicians/ Surgeons	Medical Services
Saddleback Memorial Medical Center	24451 Health Center Drive, Laguna Hills, CA 92653	221	575	Acute Care 24 hour emergency room First Hour Heart Center Cancer Institute Women's Hospital Rehabilitation Center
Mission Hospital Regional Medical Center	27700 Medical Center Road, Mission Viejo, CA 92691	240	570	Acute Care Regional Trauma Center Maternity Care Open-heart Surgery Outpatient Services Community Education 24-hour emergency services

Source: *Orange County Social Service Resource Directory*, 1991-92.

Paramedic and Ambulance Services

The Orange County Fire Department presently provides paramedic service to the General Plan study area. The Department maintains a total of 12 paramedic personnel at Fire Stations 22 and 24. Average response times for paramedic services is 10 minutes to 80 percent of the City.

The General Plan study area is approximately 15 miles from the San Onofre Nuclear Generating Station located at Camp Pendleton in San Diego County. Although radioactive by-products are contained within the facility, small quantities of radioactive materials are released into the air. Such releases are considered to be less harmful than natural background radiation. All releases are monitored closely by San Onofre Nuclear Generation Station personnel at the facility. The most likely sources of radiation contamination are transportation of radioactive materials and uncontrolled releases at the facility.

March 31, 1994

DRAFT MASTER EIR

The U.S. Nuclear Regulatory Commission has identified the area surrounding all nuclear generating stations as an Emergency Planning Zone. The State of California has defined the area outside and adjacent to the Emergency Planning Zone as a Public Education Zone. The Federal Government establishes the area within 50 miles of any nuclear generating station as an Ingestion Pathway Zone. The General Plan study area is included in the San Onofre Public Education Zone and Ingestion Pathway Zone.

Disaster Preparedness

As required by State law, the County of Orange has adopted an Emergency Plan to deal with large-scale disasters, such as earthquakes. The City of Laguna Hills currently participates in the County's Emergency Plan pending the adoption of the City of Laguna Hills Emergency Plan, now under preparation.

PROJECT IMPACTS

The impacts of the proposed General Plan on emergency services and facilities are discussed in the Emergency Services and Facilities Section of the Municipal Facilities and Services portion of the General Plan. The City of Laguna Hills currently participates in the County's Emergency Plan, pending the adoption of the City's Emergency Plan, which is currently under preparation. This plan, once adopted, will outline the local responsibility of the City in the event of a major disaster. The plan will address the demand for emergency services and facilities associated with the build out of the study area. If the City were to experience a major emergency, the increase in population (approximately 1,223 residents) due to the growth associated with build out of the study area would require minimal increased levels of emergency services.

MITIGATION MEASURES

- (L.1) The City of Laguna Hills shall maintain readiness to provide emergency services by adopting and implementing a comprehensive City Emergency Operations Plan.
- (L.2) The City of Laguna Hills shall maintain mutual aid agreements with regional emergency agencies to ensure the City's ability to receive assistance when demands for emergency services are greater than that of the City's available resources.
- (L.3) The City of Laguna Hills shall require all new development projects to provide at least two points of ingress and egress to provide adequate access in the event of an emergency situation.

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MITIGATION MONITORING

Provide an annual emergency preparedness report regarding the efforts made throughout the year to adopt and implement the Emergency Operations Plan. At a minimum this report should include:

- status of emergency facilities and services that serve the City;
- summary of preparedness activities and training held throughout the year;
- recommendations to improve program efficiency; and
- proposed programs for the coming year.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

M. GENERAL CITY SERVICES AND FACILITIES

EXISTING SETTING

City Services and Administration

The City of Laguna Hills is currently staffed by administrative employees who oversee the distribution of City services (see Figure IV-M-1). The City's administrative staff includes 14 full-time administrative positions, 12 part-time employees and 38 full-time contract employees (see Figure IV-M-1). All other services are provided to residents through various consulting services or contract agreements with individual service agencies. A listing of these services is provided in Table IV-M-1. Since growth both in population and housing has been limited in the last several years, the City has not appreciably expanded its administrative staff. City administrative facilities located at 25201 Paseo de Alicia are currently adequate to meet the needs of the anticipated population.

Table IV-M-1
City of Laguna Hills Public Service Providers

Service	City of Laguna Hills	Local Utility/District	Franchise Agreement	Community Assessment District	Service Contract	Consulting Services
Natural Gas		■				
Electric		■				
Telephone		■				
Trash Collection			■			
Cable Television			■			
Water/Sanitary Sewer		■				
Public Schools		■				
Public Library		■				
Fire/Paramedic					■	
Animal Control					■	
Vector Control					■	
Street Lighting				■		
Law Enforcement/Traffic					■	
Administration	■					■
Parks and Recreation	■					
Public Works	■					■
Development Services	■					■

Source: City of Laguna Hills, 1994

March 31, 1994

DRAFT MASTER EIR

Community Facilities

Prior to the City's incorporation, residents used County facilities for community service needs. Unfortunately, the City did not inherit any buildings from the County that could be used for community purposes.

Currently, library services for the City are provided by the Orange County Library system. There are no branch library facilities in the City and, due to County budget cuts and the relative distance of other County facilities, none are planned to be built within the City or its sphere of influence. The City Council has determined that the establishment of a City library is an important goal for the City, and has included the development of a City library somewhere in the City in the current capital improvement program.

PROJECT IMPACTS

The impacts on City Services and Facilities associated with build out of the study area under the General Plan are discussed in the General City Services and Facilities Section of the Municipal Facilities and Services portion of the General Plan. The increase in population (approximately 1,223 residents) that will result from build out of the land uses anticipated in the proposed General Plan will not adversely impact any City services or facilities. In an effort to minimize costs, the majority of City services will continue to be supplied by specific public and private contract services.

MITIGATION MEASURES

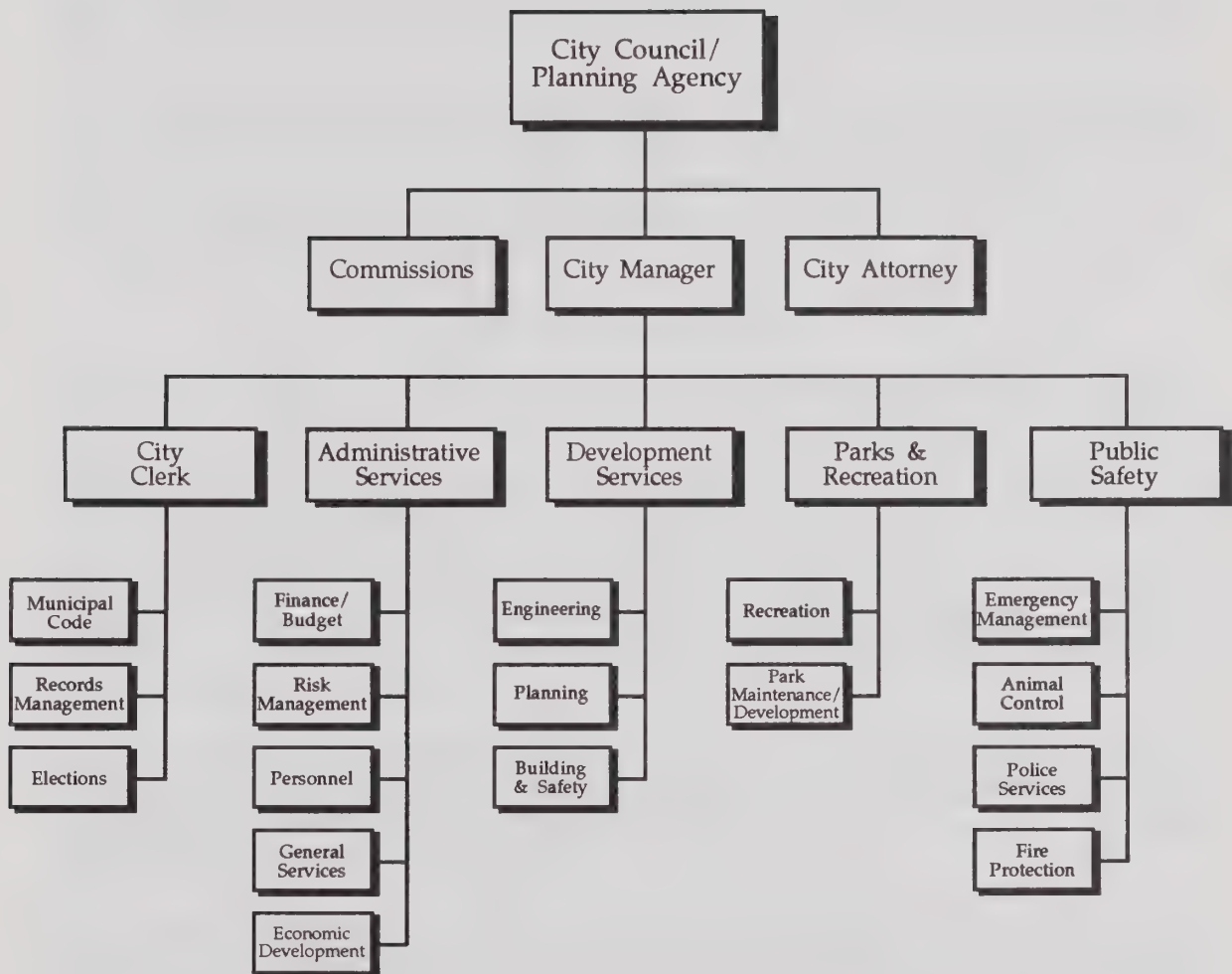
(M.1.) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of general City services and facilities provided to existing development. Therefore, development projects within the City of Laguna Hills shall be required to:

- construct and/or pay for the new on-site capital improvements that are required to support the project;
- ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;
- be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and
- ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.

MITIGATION MONITORING

Prior to approval of any new development or redevelopment permit, the Development Services Department shall review the proposed project with relevant service providers to determine whether all facilities and services needed to support the project will be provided in a timely manner. In cases where the cost of new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.

Figure IV-M-1
Organizational Chart



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N. OPEN SPACE

EXISTING SETTING

The topography of the Laguna Hills study area varies greatly from north to south. The northern portion of the General Plan study area (north of Paseo De Valencia, and including the sphere of influence area) is essentially flat, with elevations ranging from 300 feet above sea level to 428 feet above mean sea level, with the highest point located south of Aliso Creek. Elevations south of Paseo De Valencia range from 200 feet above mean sea level within local canyons to over 650 feet above mean sea level atop prominent ridges. The highest point in the General Plan study area is located south of the La Paz Road and Paseo De Valencia intersection in the Nellie Gail Ranch development.

In the General Plan study area there are approximately 582.26 acres of open space lands. These areas represent approximately 15 percent of the General Plan study area's total land uses, and include public and private parks; natural open space corridors, hillsides, canyons; and various utility, roadway, and buffer easements. The ownership and maintenance of these open space areas vary and include public and private property, as well as private lands that have been offered for dedication to the County, prior to the City of Laguna Hill's incorporation.

Public and Private Parkland

The General Plan study area contains 18 parks, comprising 77.96 acres of park land. Fourteen of these parks, or 61.2 acres of park land, are public parks. There are also two proposed public park sites, an 8.8 acre park site and a 1.5 acre park site, which will be developed by the City in the future. The General Plan study area also contains four private parks totaling 16.8 acres located in the Laguna Village, Nellie Gail Ranch, Moulton Ranch, and Aliso Meadows developments. These private parks are currently maintained by individual homeowners associations. (In addition, there is an 11.6 acre tennis and swim club located in the Nellie Gail Ranch development. The Nellie Gail Ranch Tennis and Swim Club is open to the public on a membership basis and is privately maintained and operated.) A complete description of public and private parks facilities is included in the Parks and Recreation Section of the Master EIR.

The City currently maintains 9 public parks consisting of 29.9 acres, located within the incorporated portions of the General Plan study area. Private parks within the incorporated General Plan study area include Nellie Gail Ranch Park, Moulton Ranch Park, and Aliso Meadows Park. In addition, there are 10.27 acres reserved for future parks.

There are three public parks and one private park located in the unincorporated portion of the General Plan study area. The public parks, which are maintained by the County of Orange, comprise 21.0 acres of land. The 5.0 acre private park is maintained by the Laguna Village homeowners association. Upon annexation of the unincorporated portion of the General Plan study area, the City of Laguna Hills will be responsible for maintaining all public parks that were dedicated to the County of Orange.

DRAFT MASTER EIR

Slopes, Parkways, and Medians

In addition to parklands, the City of Laguna Hills maintains slopes, parkways and median strips located along Los Alisos Boulevard, Paseo De Valencia, Alicia Parkway, La Paz Road and Oso Parkway (see Figure IV-N-1). The City also maintains a 35.0 acre natural open space area located immediately south of Paseo De Valencia, between Alicia Parkway and La Paz Road. This open space area includes two intermittent streams lined with vegetation. In addition to the parks and open space areas, the City also maintains approximately 6.2 miles of bicycle and pedestrian trails located within the incorporated portion of the City. All trails and open space areas in the unincorporated portions of the General Plan study area are currently maintained by the County of Orange. Upon annexation of the unincorporated lands, the City will be responsible for all public open space maintenance within the General Plan study area.

Open Space Lands Inventory

In order to provide detailed information regarding the ownership, status, and maintenance responsibility of various types of open space in the General Plan study area, an open space inventory was prepared (see Appendix G). The inventory includes all open space lands that have been previously dedicated for purposes of public and private parks, natural hillsides, and various utility and drainage easements. Information for the land use inventory was obtained from the City of Laguna Hills' Parks, Right-of-Way, and Open Space Maintenance Responsibilities Plan Map, aerial photographs of the General Plan study area, approved tract maps, and General Plan study area observations.

PROJECT IMPACTS

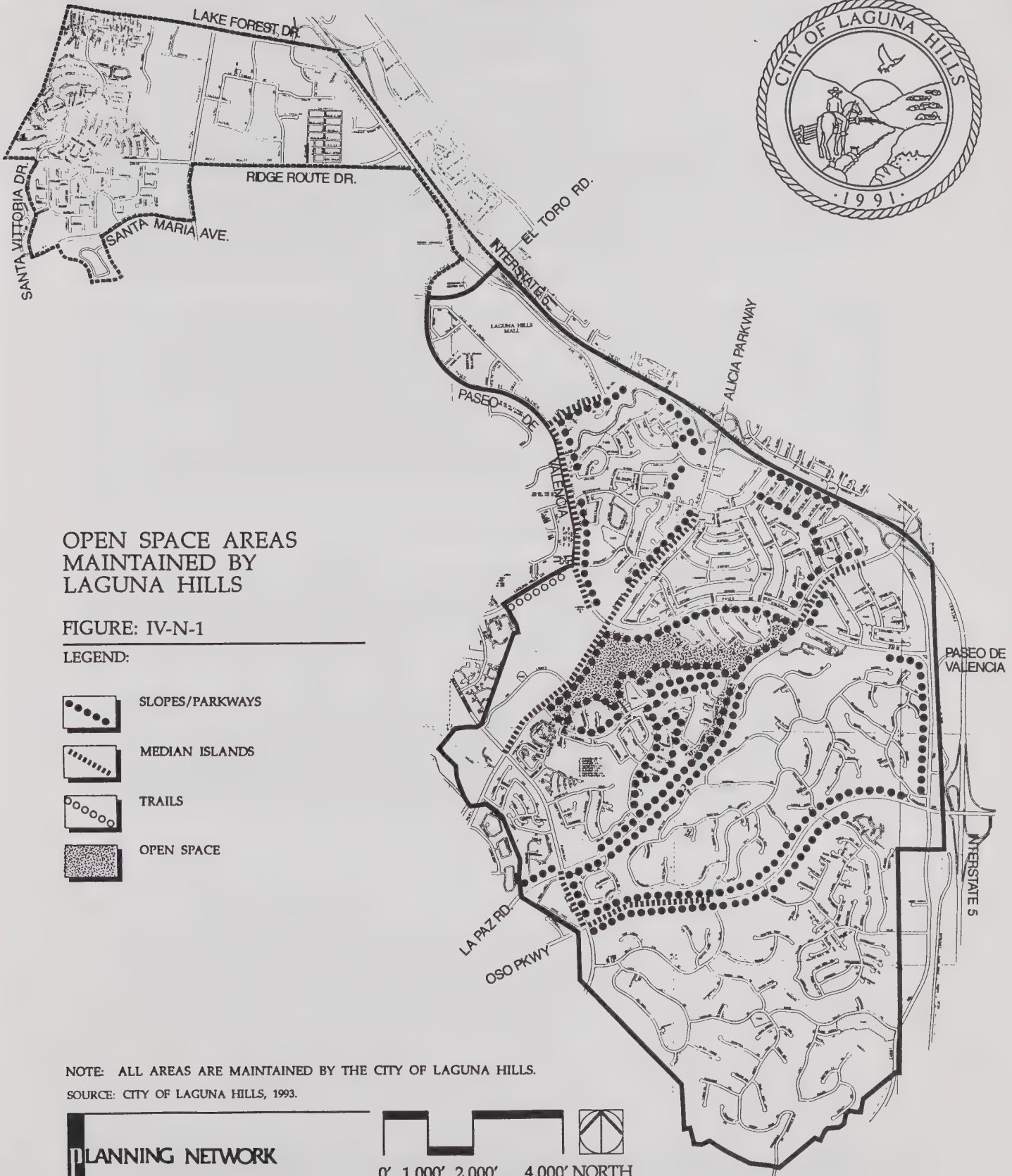
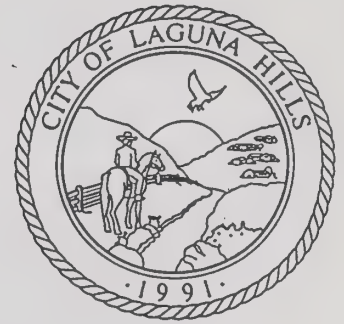
The impacts of the proposed General Plan on open space resources is discussed in the Open Space Section of the Environmental Resources portion of the General Plan. Implementation of the proposed General Plan will not result in the conversion of significant amounts of open space acreage to urban uses, since very little unused developable open space land exists within the study area. Instead, the City is committed to providing an open space program that implements continued preservation and maintenance of existing open space resources. Towards this goal, the General Plan includes an outline of various open space management options available to the City.

MITIGATION MEASURES

Implementation of the Laguna Hills General Plan will not adversely impact open space within the study area. Therefore, no mitigation measures are needed.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

O. AIR QUALITY

EXISTING SETTING

Climate and Meteorology

The Laguna Hills study area is located in the South Coast Air Basin (SCAB), as shown in Figure IV-O-1. Rainfall within the SCAB is distinctly seasonal, practically all occurring between November and April. Annual average relative humidity is approximately 70 percent. Wind speeds are very light and show little seasonal variation. The dominant daily wind pattern is a diurnal sea breeze followed by a nocturnal land breeze. This regime is broken only by occasional winter storms and infrequent strong northeasterly Santa Ana flows from the mountains and deserts to the north.

All of the above mentioned features of Southern California's climate come from the interaction of meteorological influences with the area's topography. Most important of all meteorological influences is the Pacific High, a semi-permanent high pressure cell centered over the eastern Pacific. During the late spring, summer, and early fall, descending warm air from the Pacific High blankets a cooler layer of air closer to the ground. This stable temperature inversion inhibits the vertical dispersion of air pollutants. Coupled with abundant sunshine and light surface winds, both common at this time, the increased quantities of photochemically produced air pollutants are not readily dispersed. The region's most serious air quality problems occur during these conditions.

Air Quality Management

Laguna Hills is located in the SCAB and, therefore, jurisdictionally, it is the responsibility of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) to regulate it. SCAQMD sets and enforces regulations for stationary sources in the SCAB, while CARB is charged with controlling mobile sources (i.e., motor vehicle emissions).

Currently, most of the efforts to improve air quality in the United States are directed toward the control of five criteria pollutants: photochemical oxidants (ozone) (O_3), carbon monoxide (CO), suspended particulate matter (PM_{10})¹, nitrogen oxides (NO_x), and sulfur oxides (SO_x). Federal and State primary standards that currently exist provide acceptable durations for specific pollutant levels in order to protect sensitive receptors from the adverse health effects indicated in Table IV-O-1.

¹ Originally, the standard applied to particulates of any diameter, termed total suspended particulates or TSP, but the standard was recently changed to apply only to particulates less than ten microns in diameter, termed PM_{10} .

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Figure IV-O-1
South Coast AQMD Monitoring Stations



LEGEND:

- South Coast Air Basin
- Air Monitoring Station
- Reference Station

Source: South Coast Air Quality Management District.

March 31, 1994

DRAFT MASTER EIR

Federal and State standards for ozone, carbon monoxide, nitrogen dioxide and suspended particulates are currently not met in the SCAB; thus, the Basin, including the Laguna Hills study area, is considered a non-attainment area for these pollutants. Therefore, any additional increases to these pollutants from development or other related activities must be addressed by the City through appropriate planning and/or environmental measures. SCAQMD, in coordination with the Southern California Association of Governments (SCAG), has prepared the 1991 Air Quality Management Plan (AQMP), which outlines strategies to attain federal and State air quality standards. According to the AQMP, attainment of all federal health standards is to occur no later than the year 2000 for carbon monoxide and nitrogen dioxide, 2005 for PM₁₀ and 2010 for ozone. State standards would be attained no later than the year 2000 for nitrogen dioxide and 2015 for carbon monoxide. State standards for ozone and PM₁₀ would not be achieved until after 2010. It should be noted that the State standards for ozone and PM₁₀ would not be attained with full implementation of the current AQMP, and that future AQMP revisions would need to identify additional control measures to attain these standards.

California Clean Air Act

The California Clean Air Act of 1988 (CCAA) requires all air districts in the State to endeavor to achieve and maintain State ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practicable date. Plans for attaining California standards were to have been submitted to the California Air Resources Board no later than June 30, 1991. The Act specifies that districts must focus particular attention on reducing the emissions from transportation and areawide emissions sources. Each district plan is to achieve a five percent annual reduction, averaged over consecutive three year periods, in districtwide emissions of each non attainment pollutant or its precursors. In 1991, the SCAQMD and SCAG revised the Air Quality Management Plan for the Basin to address the requirements of the California Clean Air Act.

The California Clean Air Act divides districts into moderate, serious, and severe air pollution categories, with increasingly strict control requirements mandated for each. Severe air pollution category districts are those that cannot attain and maintain the applicable State standards until December 31, 1997, or later. In addition, these pollution districts must achieve an average passenger vehicle ridership during weekday commute hours of 1.5 or more by 1999, with no net increase in vehicle emissions after 1997. Finally, these pollution districts must reduce overall population exposure to ambient pollutant levels in excess of the applicable standards by at least 50 percent of 1986-1988 levels by December 31, 2000.

1991 Air Quality Management Plan (AQMP)

SCAQMD and SCAG have adopted the 1991 AQMP, which is the current framework for achieving attainment of federal and State air quality standards in the SCAB. The 1991 AQMP is a revision of the 1989 AQMP, previously adopted by SCAQMD and SCAG, to address the requirements of the California Clean Air Act, as well as identify measures to reduce toxic contaminants and global warming precursors. SCAG and SCAQMD adopted the 1991 AQMP on June 6, 1991, and July 12, 1991, respectively. Therefore, the 1991 AQMP is the appropriate planning document for the determination of a project's air quality conformance with the CCAA under CEQA.

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The 1991 AQMP was transmitted by SCAQMD to the CARB for review and approval. CARB held a public hearing on October 16, 1992, regarding adoption of the 1991 AQMP. Subsequent to closure of the public hearing, CARB adopted portions of the 1991 AQMP, and conditionally approved the majority of the remainder of the AQMP as adequate to meet the requirements of the CCAA. The SCAQMD and SCAG were given until July 1, 1993, to provide additional documentation requested as part of the conditional approval. Once the Plan is finally acted upon by CARB, it will be submitted to the U.S. Environmental Protection Agency (EPA) for inclusion in the State Implementation Plan (SIP). Upon approval by EPA, the AQMP will also serve as the framework for all future air pollution control efforts for federal actions in SCAB.

The 1991 AQMP is similar to the 1989 AQMP; however, it includes additional Tier I, II and III control measures, as well as marketing incentive based strategies to meet targets for emission reduction. The 1991 AQMP Tier I control measures are scheduled for adoption by the implementing agencies (federal, State and local) by 1995. The 1991 AQMP also includes revisions to the 1989 AQMP conformity guidelines.

The short-term, or Tier I, component of the 1991 AQMP is action oriented. It identifies specific control measures and control technology that can be implemented by 1995, or for which control measures or technology presently exist. They consist mainly of stationary source controls that will be the subject of SCAQMD rules, and CARB adopted tailpipe emissions standards and performance requirements for motor vehicles.

Tier II measures include already demonstrated control technologies, but require advancements that can reasonably be expected to occur in the near future. When necessary, these advancements are promoted through regulatory action, such as by setting of standards at levels that force the advancement of existing technology, or by establishing a system of emission charges that provide an economic incentive to reduce emissions. Tier II measures focus mainly on transportation sources and the use of coatings and solvents.

All of the Tier II goals are expected to be achieved by 2000, except for transportation facility funding and construction, which may continue up to 2007.

Tier III measures depend on substantial technological advancements and breakthroughs that are expected to occur throughout the next two decades. This requires an aggressive expansion of Tier II research and development efforts. After achieving Tier II goals, Tier III measures must be implemented on an accelerated schedule to achieve attainment as early as feasible.

The 1991 AQMP measures exceed the emission reduction requirements of the CCAA in terms of pollution exposure per capita, but will not meet the five percent per year emission reduction target required in the CCAA. The CCAA requires that per capita exposure to unhealthful pollutant levels be reduced by 25 percent in 1994, by 40 percent in 1997, and by 50 percent in 2000. The 1991 AQMP measures exceed these per capita exposure requirements for ozone, carbon monoxide and nitrogen dioxide. (PM_{10} is not subject to the CCAA.) Although the Plan does not meet the CCAA target for a five percent emissions reduction per year, the Plan achieves the CCAA alternate target for emissions reductions to the "maximum extent feasible." In order to achieve the federal and State ambient air quality standards, the 1991 AQMP outlines a variety of control measures that should be implemented by local agencies, in conjunction with SCAQMD and other agencies. A list of those measures is provided in Table IV-O-2. During development of the General Plan, the appropriateness of implementation of each of these measures in the City will be evaluated.

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Table IV-O-1
Health Effects Summary of the Major
Criteria Air Pollutants

Criteria Air Pollutant	Adverse Effects
Ozone (O ₃)	Eye irritation. Respiratory function impairment.
Carbon Monoxide (CO)	Impairment of oxygen transport in the bloodstream, increase of carboxyhemoglobin. Aggravation of cardiovascular disease. Impairment of central nervous system function. Fatigue, headache, confusion, dizziness. Can be fatal in the case of very high concentrations in enclosed places.
Sulfur Dioxide (SO _x)	Aggravation of chronic obstructive lung disease. Increased risk of acute and chronic respiratory illness.
Nitrogen Dioxide (NO _x)	Risk of acute and chronic respiratory disease.
Suspended Particulate (PM ₁₀)	Increased risk of chronic respiratory disease with long exposure. Altered lung function in children. With SO ₂ , may produce acute illness. Particulate matter 10 microns (PM ₁₀) or less in size may lodge in and/or irritate the lungs.

Source: Bay Area Air Quality Management District.

Table IV-O-2
1991 AQMP Local Government Control Measures

AQMP Control Measure No.	Title
A-D-2	Control of emissions from swimming pool heating
A-D-3	Control of emissions from residential and commercial water heating
A-E-3	Control of dust from agricultural tilling
A-F-2	Control of emissions from construction and demolition activities and on-site vehicular flow
A-F-4	Low emission methods and materials for building construction
A-F-5	Control of dust emissions from wind erosion
E-C-1a/2b	Commercial electricity/natural gas conservation
E-C-2a/2b/2c/2d	Industrial electricity/natural gas conservation and glass/paper recycling

March 31, 1994

CITY OF LAGUNA HILLS**DRAFT MASTER EIR**

Table IV-O-2
1991 AQMP Local Government Control Measures

AQMP Control Measure No.	Title
E-C-3	Local government conservation
E-D-1a/1b	Residential electricity/natural gas conservation
M-G-6	Eliminate Excessive Car Dealership Cold Starts
M-G-7	Eliminate excessive curb idling
M-G-9	Eliminate Emissions from Advertising Vehicles
M-H-1	Environmental Review Program
M-H-2	Trip Reduction for Schools
M-H-3	Supplemental development standards
M-H-4	Special activity centers
M-H-5	Enhanced Regulation XV
M-H-6	Truck Programs
M-H-7	Registration program
M-I-7	Eliminate leaf blowers
1a	Persons work trip reduction
1b	Non-motorized transportation
2a	Employer rideshare and transit incentives
2b	Parking management
2d	Merchant transportation incentives
2e	Auto use restrictions
2f	HOV facilities
2g	Transit Improvements
3a	Truck dispatching rescheduling and rerouting
4	Traffic flow improvements
5	Non-recurrent congestion
12a	Paved roads
12b	Unpaved roads
13	Freeway and highway capacity
16	High speed rail
17	Growth management

Source: 1991 Air Quality Management Plan

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The 1991 AQMP is complementary to two other planning documents developed by SCAG: the Growth Management Plan (GMP) and the Regional Mobility Plan (RMP). As discussed in the GMP, the underlying premise for the land use measures is that trips and mode choices are not only a function of the transportation system, but also functions of housing density, the locations of land uses, and the way land uses relate to the transportation system. The GMP identified the following potential strategies, which can be implemented by local agencies to reach the performance goals outlined in the GMP.

- Require mitigation measures for proposals that worsen a subregion's jobs/housing balance.
- Establish local priorities for building infrastructure that supports jobs/housing balance.
- Locate new major facilities that are job inducing in jobs poor subregions.
- Identify growth industries and attract them with incentives.
- Educate and train workers so that businesses can find an appropriate labor force in relocation areas.
- Encourage housing development in jobs rich subregions by giving developers additional incentives.
- Reduce limitations on housing construction in jobs rich areas.
- Link transportation demand management measures to jobs/housing balance measures.

The GMP identifies existing and projected demographic trends within 26 subregions within the Basin, with Laguna Hills located within the Southeast Orange County subregion. According to the GMP, this subregion had a jobs/housing ratio of 1.45 in 1984 and is projected to have a ratio of 1.45 by the year 2010. This ratio refers to the number of jobs in the subregion compared to the number of residential units, and is an indicator of the subregion's demographic "balance". A subregion has a balance of jobs and housing when there are adequate job opportunities for residents or dwelling units for employees or an average ratio of 1.27 in 1984 or 1.22 in 2010. Jobs rich subregions have a ratio greater than the average, and housing rich subregions have ratios lower than the average. Thus, the Southeast Orange County subregion is considered jobs rich. Table IV-O-3 provides additional demographic information regarding the subregion as identified in the GMP.

Table IV-O-3
GMP Projections for Southeast Orange Subregion

	1984	1988	2010
Population	641,300	736,300	1,259,700
Housing	254,000	292,800	537,700
Employment	367,800	N/A	777,300
Jobs/Housing Ratio	1.45		1.45

Source: Southern California Growth Management Plan, 1989.

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Recommended transportation improvements focus on implementation of the RMP, which is incorporated in the 1991 AQMP, and includes infrastructure improvements, transit system expansion, HOV lanes, traffic signal synchronization, and traffic pattern optimization. According to the RMP, proposed projects in the vicinity of the City include: construction of HOV lanes along the I-5 Freeway and the future San Joaquin Hills Transportation Corridor. It should be noted that SCAG is currently in the process of developing a Regional Comprehensive Plan (RCP), which includes growth management and regional mobility elements. The proposed RCP and its elements, once adopted by SCAG, would supersede the direction outlined above regarding the GMP and RMP. Circulation of a Draft RCP is expected by summer, 1993.

Regional Air Quality Problems

Ozone is the most severe regional air quality problem in SCAB. Unlike many air pollutants, ozone is not emitted directly into the atmosphere, but is produced in the atmosphere by a complex series of photochemical reactions involving reactive organic compounds (ROC) and nitrogen oxides (NO_x). No single source accounts for most ROC and NO_x emissions; the many sources are spread throughout SCAB. SCAB's intense heat and sunlight during the summer months are ideal for the formation of ozone. While SCAB's peak ozone levels are usually measured at stations near the foot of the San Gabriel Mountains, violations of ozone standards are frequent and widespread throughout the interior portions of SCAB. Currently, SCAB experiences maximum ozone concentrations that are approximately three times the federal standard. The Laguna Hills area experiences violations of the State ozone standard approximately eight percent annually.

In contrast to ozone, problems with carbon monoxide (CO) are more localized in the SCAB because CO is a non-reactive pollutant, with one major source: motor vehicles. Ambient CO distributions closely follow the spatial and temporal distributions of vehicular traffic, and are strongly influenced by meteorological factors. SCAB currently experiences maximum CO levels in excess of twice the federal standard. The CO standards are frequently exceeded in those parts of SCAB subject to a combination of high traffic density and the occurrence of radiation inversions during the winter months. The CO problem is most severe in areas centered around the cities of Lynwood, Hawthorne and Burbank in Los Angeles County. In contrast, the Laguna Hills area has relatively low monitored CO levels.

Suspended particulates are composed of natural and man-made materials, which include soil, biological materials, sulfates, nitrates, organic compounds and lead. Particulates of all sizes, termed TSP, and of diameters smaller than ten microns, termed PM₁₀, attain their highest ambient concentrations well downwind (eastward) of the most densely populated portions of SCAB, since gaseous air pollutants react to form particulates only after several hours of transport. In addition, there is a larger natural component to the particulate concentrations in the less urbanized eastern areas of SCAB due to the collection and suspension of soil by the wind. The area of maximum PM₁₀ concentrations in SCAB is centered in the urbanized areas of Riverside and San Bernardino counties. On average, SCAB experiences PM₁₀ levels that are twice the federal standard. The Laguna Hills area has exceeded the State PM₁₀ standard between 15 percent and 33 percent annually in the past three years.

The major sources of NO_x compounds, which have an important role in the formation of ozone, are vehicular, residential, and commercial fuel combustion. NO₂ is the most abundant form of ambient NO_x. It should be noted that SCAB is the only area in the Country that fails to meet the nitrogen dioxide standard. About one-fifth of SCAB, primarily coastal and central Los Angeles County and northern Orange County, is subject to violations of the NO₂ standard. The southern Orange County area is less affected by NO₂ emission exceedances. The sulfur dioxide and lead standards are currently being met throughout SCAB.

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Local Air Quality Problems

Criteria pollutant levels within the General Plan study area can be obtained by reviewing data collected at the El Toro monitoring station, located approximately 1.5 miles northwest of the General Plan study area. The El Toro station monitors ozone (O_3), carbon monoxide (CO), and fine particulate matter (PM_{10}). Air quality standards, along with air quality data monitored at the El Toro station from 1989 to 1991, are presented in Table IV-O-4.

The air quality data indicate that ozone is the air pollutant of primary concern in the Laguna Hills area. Ozone is not directly emitted by mobile or stationary sources. It is the result of the chemical reactions of other pollutants, most importantly hydrocarbons and nitrogen dioxide, in the presence of bright sunlight, and is considered a secondary pollutant. All areas of the SCAB contribute to the ozone levels experienced in the Laguna Hills area, with the more significant areas being those directly upwind. As illustrated in Table IV-O-4, the State ozone standard was exceeded 32 days in 1990 at the El Toro monitoring station.

One-hour and eight-hour carbon monoxide standards have not been exceeded in the last three years at the El Toro station. Carbon monoxide levels are attributable primarily to automobile traffic, and usually do not reach high levels except near major congested roadways such as freeways and in central business districts such as downtown Los Angeles.

Particulate levels in the area are due to natural sources, grading operations and motor vehicles. It should be noted that the California standard for total suspended particulates has been redefined to particles less than ten micrometers aerodynamic diameter (PM_{10}). The monitoring data indicates that, for the sample of particulates monitored, as much as 33.3 percent of the sample exceeded State standards (in 1989) at the El Toro station.

Over all, the air quality in Laguna Hills is good when compared to other areas within the basin especially inland areas. This is a result of the wind conditions in and around the Laguna Hills area, which serve to carry various pollutants inland. In addition, Laguna Hills lacks the substantial traffic congestion problems associated with a major urban center, that would result in significant localized CO emissions.

CITY OF LAGUNA HILLS

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Table IV-O-4
Air Pollutant Data Summary
at El Toro Monitoring Station 1989-1991

Pollutant	1989 El Toro	1990 El Toro	1991 El Toro
Ozone			
Highest 1 hour	0.23	0.19	0.24
Days > 0.12 ppm (Federal)	7	11	10
Days > 0.09 ppm (State)	30	32	29
Carbon Monoxide			
Highest 1 hour	9.0	9.0	8.0
Days > 35.0 ppm (Federal)	0	0	0
Days > 20.0 ppm (State)	0	0	0
Highest 8 hour	5.1	5.6	4.8
Days > 9 ppm (Federal and State)	0	0	0
Nitrogen Dioxide			
Highest 1 hour	NM	NM	NM
Days > 0.25 ppm	NM	NM	NM
Sulfur Dioxide			
Highest 24 hour	NM	NM	NM
Days $\geq$ 0.50 ppm	NM	NM	NM
Particulates (PM₁₀)			
Highest 24 hour	88	88	94
Days > 50 ug/m ³	20 (33.3%)	16 (29.1%)	9 (15.3%)
Annual average	42	43.1	37
Years > 30 ug/m ³	Yes	Yes	Yes

Source: ARB Fact Sheet 39, November, 1991.

NM Not Measured

PPm Parts per million

ug/m³ Micrograms per cubic meter

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PROJECT IMPACTS

A full analysis of the potential air quality impacts of the proposed project is included in Appendix B of this Master EIR. Also included in the Appendix is a discussion of the project's conformity with the AQMP. The following information summarizes the project's regional and local air quality impacts.

Regional Impacts

Since the Basin has been designated by EPA and California Air Resources Board as a non-attainment area for ozone, carbon monoxide, nitrogen dioxide and particulates less than 10 microns (PM-10), the effect of the proposed General Plan on the attainment of Federal and State air quality standards was evaluated. Estimated pollutant emissions associated with implementation of the proposed General Plan and the No Project Alternative for the post-2010 time frame are provided in Table IV-O-5. As illustrated in the Table, emissions of all pollutants would increase with implementation of the proposed General Plan when compared with the No Project Alternative. Total emissions for the City of Laguna Hills exceed the suggested Southern California Air Quality Management District threshold criteria; however, this is expected due to the size of the City, and because these thresholds were developed for individual development projects. To determine the effect of growth associated with the proposed General Plan on regional air quality, a comparison of the future No Project Alternative with the proposed project is appropriate. As shown in Table IV-O-5, the difference in emissions between the two future scenarios illustrates the potential increase in pollutants associated with future growth resulting from the proposed project. As demonstrated in the Table, the proposed project would result in emissions increases that exceed the thresholds for carbon monoxide, reactive organic compounds and nitrogen oxides. Emissions of these pollutants are potentially significant air quality impacts. With implementation of General Plan Strategies B.1 through B.13 and the General Plan Implementation and Monitoring Program performance standards related to air quality, these emissions would be reduced; however, remaining emissions would continue to result in significant air quality impacts.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-O-5
Estimated Pollutant Emissions for Study Area (lbs/day)

	CO	ROC	NO _x	SO _x	PM ₁₀
Existing (1990)					
Motor Vehicles	34,354	4,685	3,432	281	439
Utilities	181	20	988	78	27
Total	34,535	4,705	4,420	359	466
No Project (Post-2010)					
Motor Vehicles	14,662	974	1,617	242	483
Utilities	181	20	988	78	27
Total	14,843	994	2,605	320	510
Proposed General Plan (Post-2010)					
Motor Vehicles	16,931	1,124	1,868	280	558
Utilities	186	21	1,016	80	27
Total	17,117	1,145	2,884	360	585
Differential Between Future Scenarios	2,274	151	279	40	75
Suggested SCAQMD Threshold Criteria	550	55	55	150	150

Source: LSA Associates, Inc., 1993.

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Local Emissions

Carbon monoxide is used as an indicator of a project's direct and indirect traffic impact on local air quality because CO does not readily disperse in the local environment. To determine the proposed project's effect on local air quality, the California Line Source Dispersion Model (CALINE4), supplemented by background CO data obtained from Southern California Air Quality Management District monitoring data at the El Toro station, was utilized to estimate CO levels at five existing intersections within the study area. The CALINE4 model was developed by the Office of Transportation Laboratory, and uses traffic volume information, EMFAC7EP emission factors provided in the Southern California Air Quality Management District CEQA Air Quality Handbook, intersection geometry and local meteorology to predict air pollution concentrations near roadways. Future CO background levels were obtained from the 1993 Southern California Air Quality Management District CEQA Handbook. These concentrations are lower than existing levels and reflect the implementation of existing Southern California Air Quality Management District and California Air Resources Board regulations regarding the use of cleaner fuels and vehicles and the turnover of the existing fleet to cleaner vehicles in the future. These five receptors were chosen due to their proximity to sensitive land uses, such as residences, schools or Leisure World, or their potential to experience congestion substantial enough to cause exceedances of the federal and/or State CO standards. Figure IV-O-2 illustrates the location of the five receptors modelled in this analysis. The purpose of this analysis was to evaluate any changes to ambient CO levels associated with implementation of the proposed project. The results of the CALINE4 CO calculations are provided in Table IV-O-6.

As illustrated in Table IV-O-6, CO concentrations at five receptors within the City of Laguna Hills would be below the federal and State standards with implementation of the proposed General Plan and anticipated future growth outside the City and, therefore, are below the level of significance.

As noted in the proposed General Plan, a large volume of existing traffic on arterials within the City are vehicles whose trip origins and destinations are outside the City of Laguna Hills. It is projected that these "pass through" trips will continue in the future. Provided below in Table IV-O-7 is a listing of the five receptors identified in the CO analysis and the percentage of daily trips that are identified as "pass through" trips in the traffic modelling prepared for the proposed General Plan.

As shown above, a high percentage of "pass through" trips occur at these intersections, i.e., trips that the City cannot control through land use policy or other means. Accordingly, emissions of air pollutants associated with these "pass through" trips are a majority of the emissions occurring at these locations, and are not controllable by the City's proposed land use or transportation policies.

MITIGATION MEASURES

- (O.1) The City of Laguna Hills shall require that all proposed development or redevelopment projects include transportation mitigation measures contained in the Laguna Hills Master EIR.
- (O.2) Prior to issuance of a building permit for any development or redevelopment project, the City of Laguna Hills shall require that the applicant demonstrate incorporation of site design features that encourage use of alternative forms of energy and modes of transportation as suggested by the Air Quality Management Plan. Compliance will require the applicant to identify the site design features incorporated within the proposed building and design for approval by the City Building Official. Site design features to be considered shall include, but not be limited to, the following:

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- use turf block instead of paving for driveways with limited use or emergency access only;
- provide pedestrian walkways both within the development and connecting to nearby commercial uses;
- provide teleconferencing or video conferencing facilities or equipment;
- contribute to centralized telecommuting facility in the City;
- require percentage of parking spaces reserved for carpools/vanpools;
- provide bicycle racks;
- provide shower/locker room facilities for employees;
- provide bikeways and pedestrian oriented design plans;
- provide on-site truck stacking and/or loading zones; and
- use alternatively fueled (low emission) vehicles or electric (zero emission) vehicles.

(O.3) Prior to approval of any development or redevelopment project, the City of Laguna Hills shall require that project designs incorporate the input of a certified arborist, landscape architect, and/or qualified horticulturist into the review and approval of landscape proposals through the design review process. The design shall indicate how plant materials and other landscape architectural features will be utilized to promote cooling during hot periods and prevent wind chill during the cool season. The following techniques shall be considered in the design of development projects.

- Incorporate the use of deciduous trees in landscaping plans, especially near buildings and around expanses of paved areas.
- Incorporate deciduous vines, trellises, and canopies to shade south and westward facing walls, to cool them in summer months.
- Provide wind breaks to protect against winter and Santa Ana winds.
- Trees and hedges planted close to buildings should be located so as to channel beneficial cooling breezes through openings.
- Improve solar gain through tree plantings adjacent to buildings

(O.4) Prior to issuance of a building permit for any new development or redevelopment, the Laguna Hills City Building official shall examine building/architectural plans to ensure that building design and construction materials reflect State Title 24 energy conservation requirements and current energy efficiency design to the maximum extent feasible. Measures to be considered include, but are not limited to, the following:

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- installation of non-concentrating solar collectors, low NOx heaters, or a combination of both in new swimming pools;
- installation of solar water heating equipment or non-concentrating solar collectors in conjunction with conventional water heaters;
- installation of double pane windows;
- installation of high efficiency heat pumps, furnaces and water heaters, air conditioners, refrigerators, and clothes dryers or other energy efficient appliances and equipment;
- installation of energy efficient ceiling and wall materials and duct insulation;
- increase in thermal integrity through standard weatherization measures and advanced window glazing;
- insulation of solid concrete walls with both exterior and interior products;
- incorporation of passive solar designs, such as wall thickness, use of construction materials that absorb or reflect sunlight, building orientation, and roof overhangs;
- use of time clocks and/or occupant sensors;
- utilization of energy efficient water and space heating, refrigeration, cooling or cooking equipment; and
- use of waste heat recovery systems.

(O.5) The City of Laguna Hills shall reduce on-road mobile source emissions during the construction of new development and redevelopment projects by implementing the following measures, wherever feasible:

- configure construction parking areas to minimize traffic interference along public access streets;
- provide temporary traffic control (e.g., flag man) during all phases of construction to improve traffic flow where construction activities may interfere with on-road travel;
- schedule construction activities that could affect traffic flows to non-peak travel hours (10:00 a.m. to 3:00 p.m. in residential and non-residential areas and 7:00 p.m. to 6:00 a.m. in non-residential, non-noise sensitive areas);
- develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees;

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- development a construction traffic management program that includes, but is not limited to, rerouting construction-related traffic off congested streets, consolidating truck deliveries, and providing temporary dedicated turn lanes for movement of construction traffic to and from the site;
- prohibit truck idling in excess of two minutes;
- implement a shuttle service to and from restaurants and retail services during lunch hours;
- sweep streets at the end of the day if visible soil material is carried onto adjacent paved public roads; and/or
- install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and other equipment leaving the site.

(O.6) The City of Laguna Hills shall reduce off-road mobile source emissions during project construction of new development and redevelopment projects by implementing the following measures, wherever feasible:

- use electricity from power poles rather than temporary diesel or gasoline power generators;
- use methanol or natural gas powered mobile equipment rather than diesel or gasoline powered equipment;
- apply non-toxic soil stabilizers according to manufacturers' specifications to all previously graded areas that have been inactive for ten (10) days;
- replace ground cover in disturbed areas immediately at the suspension of construction in the area;
- water active sites at least twice daily;
- enclose, cover, water twice daily, or apply non-toxic soil stabilizers according to manufacturers' specifications to exposed soils materials with a five percent or greater silt content;
- suspend grading activities when wind speeds (instantaneous gusts) exceed 25 miles per hour;
- apply water three times daily or non-toxic soil stabilizers according to manufacturers' specifications to unpaved construction roadways;
- enforce a 15 miles per hour speed limit on unpaved portions of the construction site;

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- pave construction roads that have a traffic volume of more than 50 daily trips by construction equipment or more than 150 total daily trips.

MITIGATION MONITORING

Air quality mitigation standards for construction activities shall apply to all construction activity. The following criteria will be used to determine the level of mitigation that will be required from any particular project:

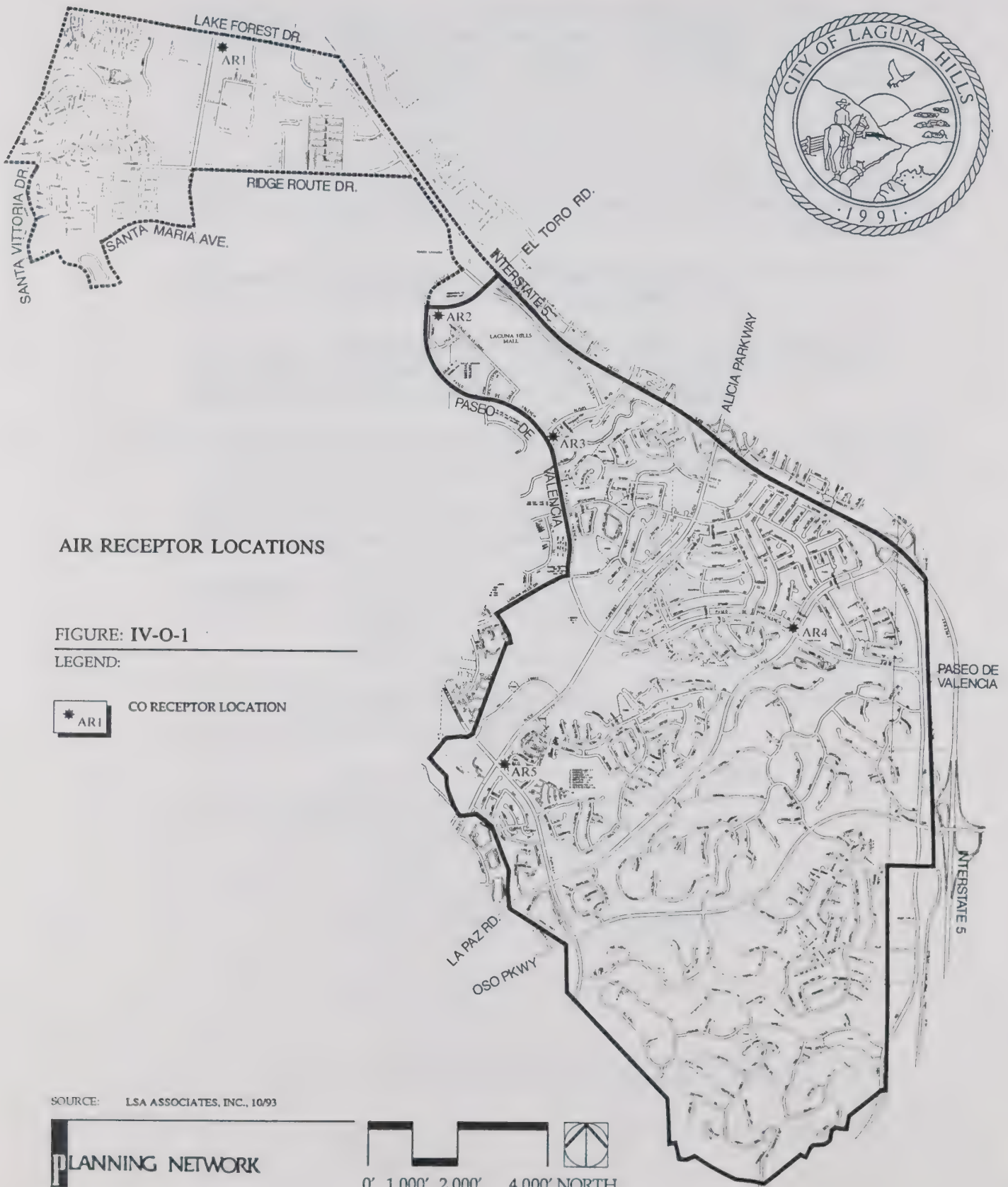
- the intensity of mitigation measures shall coincide with the intensity of air quality impacts;
- the combination of mitigation measures that are employed should reduce construction emissions below the thresholds of significance maintained by the South Coast Air Quality Management District;
- adequate resources must be available to ensure implementation of required mitigation;
- required mitigation measures must be able to be reasonably accomplished within a reasonable time frame; and
- compliance with required mitigation must be verifiable and enforceable by a legally binding commitment.

Provide an Air Quality Program Review, which at a minimum includes:

- a review of air quality implementation actions of the previous year as to the effectiveness of each action in reducing local emissions and achieving trip reduction targets;
- a selection of new implementation actions from the master list of actions contained in the South Coast Air Quality Management Plan to be implemented in the coming year; and
- setting schedules and allocating staff resources for the implementation of actions selected.

CITY OF LAGUNA HILLS

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AIR RECEPTOR LOCATIONS

FIGURE: IV-O-1

LEGEND:

 ARI CO RECEPTOR LOCATION

SOURCE: LSA ASSOCIATES, INC., 10/93

PLANNING NETWORK



March 31, 1994

IV-O-18

CITY OF LAGUNA HILLS

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Table IV-O-6
Worst Case CO Concentrations (In Parts per Million)
at Selected Sensitive Receptor Locations

Air	Receptor Locations		Existing (1993)	Future w/GPA (Post-2010) ¹
AR1	Moulton Parkway/Lake Forest Drive	1 hour	16.9	7.3
		8 hour	10.5 ²	4.5
AR2	Paseo de Valencia/El Toro Road	1 hour	13.8	7.3
		8 hour	8.6	4.5
AR3	Paseo de Valencia/Los Alisos Blvd.	1 hour	18.7	9.2
		8 hour	11.7 ³	5.7
AR4	Paseo de Valencia/La Paz Road	1 hour	12.6	6.0
		8 hour	7.9	3.7 ³
AR5	Moulton Parkway/Alicia Parkway	1 hour	17.0	8.7 ³
		8 hour	10.6 ³	5.4
Background Concentrations: ³		1 hour	8.5	3.7
		8 hour	5.3	2.3
State 1 hour CO standard:			20.0	20.0
State and Federal 8 hour CO standard:			9.1	9.1

Source: LSA Associates, Inc., 1993.

¹ Although an increase in the total number of trips is projected, CO concentrations are expected to decrease due to more efficient automobile engines, pursuant to assumptions made in the April, 1993 *CEQA Handbook*.

¹ Concentrations that exceed the State and federal 8-hour air quality standard of not more than 9.0 ppm.

² CO monitoring data from SCQAMD's El Toro station were used to approximate worst case concentrations in the vicinity of the proposed project site. Table 5-2, Projected Future Year 1-Hour CO Concentrations, and Table 5-3, Project Future year 8-Hour CO Concentrations, from the April, 1993, *CEQA Handbook* were used as the background concentrations for the existing (1993) scenario. Year 2010 background concentrations were obtained from Table 6-2 and Table 6-5 of SCAQMD Technical Report V-1, December 1990.

CITY OF LAGUNA HILLS

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Table IV-O-7
City of Laguna Hills Post 2010 Preferred General Plan
Daily Traffic Volume Composition

Arterial	Segment	Internal to Internal	Internal to External	External to External
Lake Forest Drive	West City Limit to Moulton Parkway	1%	24%	75%
	Moulton Parkway to Avenida De Carlota	2%	54%	44%
Ridge Route Drive	West City Limits to Moulton Parkway	21%	58%	21%
	Moulton Parkway to Avenida De Carlota	22%	54%	24%
Avenida De Carlota	Lake Forest Drive to Ridge Route Drive	6%	60%	34%
	Ridge Route Drive to El Toro Road	6%	43%	51%
El Toro Road	Paseo De Valencia to Avenida De Carlota	1%	20%	79%
Paseo De Valencia	El Toro Road to Los Alisos Blvd.	7%	36%	57%
	Los Alisos Blvd. to Alicia Parkway	8%	39%	53%
	Alicia Parkway to La Paz Road	12%	50%	38%
	La Paz Road to Cabot Road	2%	45%	53%
Moulton Parkway	Lake Forest Drive to Ridge Route Drive	0%	14%	86%
	West City Limit to Alicia Parkway	2%	17%	81%
	Alicia Parkway to La Paz Road	3%	23%	74%
	La Paz Road to Oso Parkway	3%	23%	74%
	Oso Parkway to Southern City Limit	1%	18%	81%

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-O-7
City of Laguna Hills Post 2010 Preferred General Plan
Daily Traffic Volume Composition

Arterial	Segment	Internal to Internal	Internal to External	External to External
Alicia Parkway	Western City Limit to Moulton Parkway	3%	29%	68%
	Moulton Parkway to Paseo De Valencia	7%	36%	57%
	Paseo De Valencia to Interstate 5	6%	46%	48%
La Paz Road	Western City Limit to Moulton Parkway	0%	33%	67%
	Moulton Parkway to Paseo De Valencia	6%	38%	56%
	Paseo De Valencia to Cabot Road	6%	45%	49%
Cabot Road	La Paz Road to Paseo De Valencia	7%	47%	46%
	Paseo De Valencia to Oso Parkway	2%	40%	58%
	Oso Parkway to Southern City Limit	3%	33%	64%
Oso Parkway	Western City Limit to Moulton Parkway	0%	24%	76%
	Moulton Parkway to Cabot Road	1%	21%	78%

Source: LSA Associates, Inc., January 18, 1994.

Notes: Internal to Internal - Traffic with origins and destinations within the City.
Internal to External - Traffic with origins within the City and destinations outside the City.
External to External - Traffic with neither origins or destinations within the City.

DRAFT MASTER EIR**P. BIOLOGICAL RESOURCES****EXISTING SETTING****General Description**

Since Spanish settlement, much of the General Plan study area was used as pasture land for cattle and sheep, and other agriculture. The General Plan study area is now mostly composed of residential development, shopping centers, urban infrastructure, commercial and light industry centers. These current and historic land uses have replaced most of the native vegetation and wildlife resources that once occupied this part of southern Orange County. At present, most of the City's streets and residential communities are lushly landscaped, giving an aesthetic impression of natural character. However, ornamental shrubs and trees such as eucalyptus, acacia, oleander, olive, and pepper, as well as common ground covers like Bermuda grass and iceplant, offer little or no habitat value for most native wildlife species. Nevertheless, several areas remain within the General Plan study area that exhibit native vegetation and function as important habitat for a variety of native wildlife, and potentially support several sensitive species.

Open space occupies a relatively small portion of the General Plan study area, chiefly situated in narrow strips along existing drainage courses and adjacent to the major arterial roadways. Most of the biologically significant areas are concentrated along the natural drainages that pass through the area, specifically Aliso Creek and its tributaries, Oso Creek, and a San Diego Creek tributary in the City's sphere of influence that connects to the Veeh Ranch Reservoir. Additional open space areas occur in several small public parks and within residential tracts. Many residents of Laguna Hills enjoy equestrian activities, and much of the open space in the central and eastern parts of the City is used for both public and private pasture and riding activities. Most of these areas consist of introduced annual grasses and ornamental landscaping within and adjacent to residential communities.

Plant Communities

The following plant communities have been identified within the General Plan study area (also see Figure IV-P-1, Biotic Resources).

Table IV-P-1
Plant Communities Identified Within General Plan Study Area

Plant Community	Sensitivity
Southern arroyo willow forest (riparian)	Moderate
Mulefat scrub (riparian)	Low - Moderate
Open water and coastal brackish marsh (wetland)	Moderate
Coastal sage scrub (upland)	Low - Moderate
Annual grasslands (upland)	Low
Disturbed (ruderal) (upland)	Non-sensitive
Parks and ornamental plantings (upland)	Non-sensitive

Source: LSA Associates, Inc., 1992.

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The inventory of plant communities depicted in Table IV-P-1 was obtained primarily from a general survey of the General Plan study area conducted in December, 1992. The habitat types identified were categorized using the Orange County Habitat Classification System (1992). These specific plant communities are described in detail below.

The resources identified or expected to occur in association with each habitat type can be categorized in terms of their sensitivity. Resource sensitivity is a function of the ecological importance, rarity, legal status, and the level of protection afforded to elements associated with a particular habitat type. The sensitivity of a resource is affected by previous or ongoing disturbance. For example, a highly polluted stream or a patch of coastal sage scrub surrounded by development is considerably less sensitive than similar undisturbed habitats because it cannot support a natural, highly diverse and productive biological community.

All the habitat classifications described in the text support some biotic resources, although the relative value of these resources varies considerably. The habitat types identified in the General Plan study area fall into three general categories of sensitivity:

- Moderate;
- Low; and
- Non-sensitive.

No resources in the General Plan study area can presently be classified as highly sensitive due to the high levels of disturbance and reduced species diversity typical of urbanized areas. However, if any species of plants or animals listed as threatened or endangered by State or federal agencies are found to occur in the General Plan study area, the associated habitat would be elevated to a High level of sensitivity.

Figure IV-P-1 provides a map of moderately sensitive plant communities as they occurred in the General Plan study area in December, 1992. The numerical designations shown on the figure correspond to those used by the Orange County Habitat Classification System. Moderately sensitive habitat types include Open Water, Coastal Brackish Marsh, Southwestern Arroyo Willow Forest, Mulefat Scrub, and Coastal Sage Scrub. Annual Grassland is considered to be of low sensitivity. Areas consisting primarily of Ruderal (weedy) species or ornamental plantings are considered non-sensitive. At the general level of detail used for this exhibit, individual blocks of habitat may be identified as containing a mix of two or more habitat types, rather than assigned only one habitat type designation.

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Southern Arroyo Willow Forest

This habitat is dominated by a closed canopy of arroyo willows (*Salix lasiolepis*) and occasional sycamores (*Platanus racemosa*) averaging more than 25 feet in height. The largest patches of this riparian woodland community type occur immediately west of Veeh Reservoir and within the Aliso Creek and Oso Creek channels. Elsewhere in the General Plan study area, this habitat is found in relatively narrow strips or small, isolated patches along the smaller streams and drainages.

The primary physical attribute of this community is the presence of moist to saturated soils, with water table levels at or near the surface during part, if not all, of the year. Other typical woody species present include red willow (*Salix laevigata*), mulefat (*Baccharis salicifolia* [*glutinosa*]), and occasional cottonwood trees (*Populus fremontii*). This community often lacks any significant native understory, either because the dense canopy shades out low-growing plants or because invasive exotic species have displaced the natives. Where native herbaceous species do occur, they are normally hydrophytic, meaning that those plants have adapted to constant or periodic saturation or inundation. Typical native hydrophytes include those listed below under mulefat scrub and coastal brackish marsh.

Evidence of moderate to severe degradation is evident throughout all the willow forest habitat, as well as the other riparian communities in the General Plan study area. First, exotic species have displaced native riparian elements in many areas, reducing the value of this habitat to most native wildlife species, which do not forage or nest in non-native vegetation. For example, the large forested area below Veeh Reservoir contains extensive growth of giant reed (*Arundo donax*), a noxious weed that is similar in appearance to bamboo. Eucalyptus trees are also found around the periphery of most of the riparian habitats in the General Plan study area. Eucalyptus produces allelopathic chemicals that accumulate in the soil under excessive leaf litter and inhibit the growth or establishment of understory plants. Pampas grass (*Cortaderia atacamensis*), tamarisk (*Tamarix ramossissima*), cardoon (*Cynara cardunculus*), horseweed (*Conyza canadensis*), and other non-natives have also become widely established. Secondly, the habitat is frequently disturbed by people and domestic animals, causing extensive damage to vegetation, promoting the proliferation of weedy plants, and reducing indigenous animal populations and breeding success. In addition, most of the drainages observed contained large amounts of refuse and debris, which can inhibit plant growth and vigor and cause health problems for wildlife. Finally, high noise levels generated by a combination of automobile traffic and jet aircraft are likely to lower the diversity of bird species and reduce breeding success in most riparian areas.

Mulefat Scrub

Mulefat scrub is similar to willow forest and occurs in the same general areas in the General Plan study area, but this community is shorter in stature since the dominant species are shrub species, rather than trees. The physical characteristics of these habitats are similar, although riparian scrub can tolerate slightly different conditions. Dominant species in this habitat include mulefat (*Baccharis salicifolia* [*glutinosa*]), coyote bush (*Baccharis pilularis*), and short-statured willow trees and young or emergent cottonwoods and willows. Native herbaceous species that occasionally occur are mostly hydrophytic (water-loving) and include saltgrass (*Distichlis spicata*), rabbitfoot grass (*Polypogon monspeliensis*), mugwort (*Artemisia douglasiana*), and occasionally water dependent plants such as cattails (*Typha* spp.) and bulrushes (*Scirpus* spp.). As discussed above with respect to southern willow forest, much of this habitat has been infiltrated or displaced by the exotic plant species enumerated above in the description of arroyo willow forest.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Open Water and Coastal Brackish Marsh

The Veeh Reservoir constitutes the majority of open water habitat within the General Plan study area. The reservoir also contains large and small patches of brackish marsh in the east end and around the periphery. Additional areas of open water and brackish marsh are scattered along the larger water courses, especially in Aliso Creek. Open water habitat and marshland area have water at the surface most or all of the year. Brackish marsh areas are typically small, forming narrow bands at the shallow margin of open water habitat and within streambeds, where flows are typically slow moving. Brackish marsh generally supports herbaceous species that are water dependent, such as native cattails (*Typha* spp.), bulrushes (*Scirpus* spp.), and other rushes (*Juncus* spp.) and sedges (*Cyperus* and *Eleocharis* spp.). Hedge-nettle (*Stachys rigida*), western ragweed (*Ambrosia psilostachys*), and poison oak (*Toxicodendron diversilobum*) sometimes occur on adjacent higher ground that may be only periodically saturated. These somewhat drier areas also occasionally support larger, woodier plants such as mulefat and willows, as well as exotic species such as giant reed, tamarisk, fennel (*Foeniculum vulgare*), castor bean (*Ricinus communis*), and poison hemlock (*Conium maculatum*).

Coastal Sage Scrub

A rather disturbed version of coastal sage scrub occurs on the north and east facing slopes just southwest of the intersection of Cabot Road and Oso Parkway. Small patches of this community also occur scattered about the slopes near several of the natural drainage courses and in a few other isolated locations. This plant community is typically characterized by primarily low narrow-leaved drought deciduous shrubs such as California buckwheat (*Eriogonum fasciculatum*), brittlebush (*Encelia californica*), California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*) and prickly pear cactus (*Opuntia littoralis*). Also present are a sparse understory of herbs such as blue-eyed grass (*Sisyrinchium bellum*) and introduced annual grasses and forbs such as slender wild oats (*Avena barbata*), mustard (*Brassica* spp.), Russian thistle (*Salsola australis*), and cardoon (*Cynara cardunculus*).

It is of interest to note that on the north facing slope, near the Cabot/Oso intersection, ornamental trees have been intentionally established using drip irrigation. However, buckwheat, brittlebush, sagebrush, other coastal sage scrub species, and even mulefat have successfully colonized much of the interstitial spaces among the ornamentals. This demonstrates that replacement of irrigated landscaping with non-irrigated, drought tolerant shrubs and herbs could be very successful in similar areas. By comparison, the best example of coastal sage scrub in the General Plan study area occurs on the east facing slope above Cabot Road, which was graded within the last few years. This slope may have been hydroseeded with a coastal sage scrub seed mix dominated by brittlebush and buckwheat, since it is rather unusual for these species to achieve a dominant status naturally in such a disturbed area. Although the representative sage scrub plants on these slopes are in good condition, the habitat in general is considered to be of relatively low value to wildlife. Coverage density is too low compared to most natural coastal sage scrub areas and habitat patches are too small to sustain most species dependent on this habitat type. Also, most of the associated wildlife species are unlikely to return to these small habitat areas, since no connection to any similar habitat remains. Therefore, none of the coastal sage scrub within the General Plan study area is expected to provide useful habitat to any of the numerous sensitive species associated with coastal sage scrub in the region, including the California gnatcatcher and the coastal cactus wren.

DRAFT MASTER EIR

Annual Grasslands

Grasslands form on deep soils, usually on fairly level terrain. The soil moisture regime can range from moist to almost saturated. Virtually all of the native grasslands that probably occurred historically in Laguna Hills have been replaced by annual grasslands. This habitat occurs throughout much of the open space in the General Plan study area, in patches along the drainages and on the gentle slopes among the residential developments.

Annual grasslands are typically described as an introduced plant community dominated by primarily non-native grass species and ruderal (weedy) forbs. In the General Plan study area, dominant annual grass species include wild oats (*Avena* spp.), barley (*Hordeum vulgare*), brome grasses (*Bromus* spp.) and abumashi (*Schismus barbatus*), with rabbitfoot grass (*Polypogon monspeliensis*) common in some areas. Two extremely invasive perennial grasses, Bermuda grass (*Cynodon dactylon*) and pampas grass (*Cortaderia atacamensis*), are also quite common, especially in and near streambeds. Common forbs include mostly ruderal species such as mustards (*Brassica* spp.), cardoon (*Cynara cardunculus*), tocalote (*Centaurea melitensis*), filaree (*Erodium* spp.), owl's clover (*Orthocarpus purpurascens*) and blue dicks (*Dichelostemma pulchella*).

Disturbed (Ruderal)

Disturbed or ruderal (weedy) plant communities are typified by the presence of large areas of disturbance and excessive weedy growth. Vacant lots are typically occupied by ruderal plant communities, with the common species being mustard, brome grasses, wild oats and storksbill (*Erodium* spp.). The soil and other physical characteristics are variable, depending to a large degree upon the original plant community present before the disturbed community moved in. The prominent vegetative characteristics are the presence of non-native or native weedy species, with low species diversity but high numbers of individuals within a species. As described previously, the riparian and coastal sage scrub communities in the General Plan study area contain significant disturbed areas, which can be easily distinguished from natural areas by the prevalence of exotic species.

Parks and Ornamental Plantings

This general association of plants occurs in various localities in the General Plan study area, generally in and around residential communities and recreation areas, along roadways, and at the interface of urban and natural areas. This grouping of vegetative cover is composed of artificial arrangements of decorative, usually non-native, plant species and should not be considered a true plant community. Parks and ornamental landscaping in the General Plan study area frequently consist of turf grass or other ground covers, such as ice plant (*Mesembryanthemum* spp.), and widely spaced shrubs and/or trees placed in regular patterns. Typical shrubs include oleander and acacias, and several common tree types include eucalyptus, olive, pepper, and pines. In a few areas, however, native sycamore and cottonwood trees have been planted to accentuate roadsides and median strips.

Wildlife

Within the General Plan study area, the habitats described above support a variety of wildlife species. The composition of the species found in a given area is dependent upon the plant community present, the availability of water and forage, and the time of the year for some species.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

A few fish species may be expected in the General Plan study area drainages, especially mosquitofish, an exotic species frequently introduced to help control mosquito populations. At least one sensitive species, the arroyo chub, a State species of concern, may still occur in the short reach of Oso Creek that passes through the northeastern corner of the General Plan study area. The tidewater goby, expected to be federally listed as endangered by 1993, is another resident of coastal drainages in the vicinity, including Oso and Aliso Creeks. However, the goby is unlikely to occur in the General Plan study area as its favored habitat is usually closer to creek mouths with strong marine influence.

Amphibians such as salamanders, bullfrog, African clawed frog, and tree frog may occur in association with any of the marshy, open water and riparian habitats that occur in the General Plan study area, despite past disturbance and alterations. The African clawed frog, a prolific exotic species often found in ponds and reservoirs in Southern California, may require population control measures if it is identified in the area, because it can rapidly out-compete and displace native amphibians and fish once introduced. Despite increased competition with individual exotic species for depleted wetland resources, it is possible that two sensitive species, the southwestern pond turtle and the spadefoot toad may still occur in the General Plan study area, since suitable habitat is present.

Riparian and open water habitats also support a variety of bird species, including raptors such as red-tailed hawk, red-shouldered hawk, turkey vulture, and several species of owls. Some common birds that require open water include mallard, snowy egret, greater yellowlegs, green-backed heron, American coot, and great blue heron. Summer residents (species that typically nest on the site, then migrate far to the south to spend the winter) that are characteristic of riparian areas in the region include Allen's hummingbird, ash-throated and Pacific-slope flycatchers, black-headed grosbeak and northern oriole. Year-round residents occurring primarily in and around the city's riparian areas include great horned owl and black phoebe. Riparian areas are attractive to a variety of migrant passerines that occur throughout the region during spring and fall migration; the species expected include yellow, Townsend's and Wilson's warblers. In addition to species that occur primarily in riparian habitats, many species typical of other communities are expected to utilize the riparian areas regularly for foraging, cover and water. It is possible that sufficient willow forest habitat exists, particularly west of Veeh Reservoir, to provide potential nesting habitat for Least Bell's vireo, a State and federally listed endangered species, although no records of its occurrence in this area were found.

The limited coastal sage scrub habitat, as previously described, is not expected to support many species normally associated with this habitat. Several species expected include such reptiles as western fence lizard, western whiptail, and gopher snakes. Birds such as towhees, sparrows, California thrasher, bushtit and wren-tit may be present. Various raptors certainly would forage in the areas along Cabot Road, particularly with the excellent observation perches afforded by the Edison distribution lines and towers that overlook Oso Creek. Mammals present include those often associated with grasslands and disturbed areas: Audubon cottontail, Beechey ground squirrel, and small rodents such as deer mouse, brush mouse, and pocket gopher.

Grassland habitats support mostly ground dwelling species, including reptiles such as the side-blotched lizard; birds such as blackbirds, cowbirds, horned lark and mourning dove; and mammals such as Beechey ground squirrel, Audubon cottontail, and black-tailed jackrabbit. Raptors such as golden eagle, red-tailed hawk, and northern harrier forage over grasslands as well.

Ubiquitous animal species include the American crow, common raven, northern mockingbird, house finch and side-blotched lizard. These species may be expected in almost any habitat found in the General Plan study area including ornamentally landscaped areas.

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Sensitive Biological Resources

Sensitive resources are those plants, animals and habitats occurring or potentially occurring in the General Plan study area that are endangered, threatened, rare or declining rapidly at a local, regional, State or national level. Legal protection for these resources varies widely, from the comprehensive protection extended to endangered species to no legal status at present. To the extent possible, a thorough list of the sensitive biological resources (i.e., plant and wildlife species) that could occur in the General Plan study area has been prepared based on the documents available and knowledge of resources in the region and is provided in Table IV-P-2. Definitions of the legal status categories and CEQA criteria for significance are provided following the table.

CEQA Definitions

Section 15380 in the CEQA Guidelines defines rare or endangered species as those listed as being "rare, threatened or endangered" by either the California Department of Fish and Game (CDFG) or United States Fish and Wildlife Service (USFWS). Any impacts to such species are considered significant under CEQA Guidelines.

In addition, Section 15380 also states that species not so listed should be considered as rare or endangered if the species can be shown to meet specified criteria relating to the continued existence of the species. Such supporting information can be in the form of species listings in various other categories by CDFG, USFWS, local agencies, or special interest groups such as the California Native Plant Society (CNPS) and the National Audubon Society. The following discussion is designed to help clarify the status of the sensitive species that are found or could potentially occur in the General Plan study area under CEQA.

Federal Categories

There are five categories of federal listings that place species in the rare/endangered category under CEQA Guidelines Section 15380:

- Listed Endangered;
- Listed Threatened;
- Proposed as Endangered;
- Proposed as Threatened; and
- Category 1 Candidate for Listing.

USFWS has determined that species in the "Proposed" categories meet requirements similar to those for listed threatened/endangered species. Three classes of candidates for federal status are used, as explained below.

The Category 1 Candidate category is defined as including species "for which the Service presently has substantial information on hand to support the biological appropriateness of proposing to list as endangered or threatened" (USFWS, 1989, p. 554). Therefore, Category 1 Candidate species generally meet the requirements of Section 15380.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-P-2
Sensitive Species Potentially Occurring
Within the General Plan Study Area

Species	Status		
	Federal	State	CNPS
Plants			
Western dichondra <i>Dichondra occidentalis</i>	C3c	—	4
Many-stemmed dudleya <i>Dudleya multicaulis</i>	C2	—	1B
Orange County Turkish rugging <i>Chorizanthe staticoides</i> <i>chrysacantha</i>	C3b	—	1B
Invertebrates and Fish			
Tidewater goby <i>Eucyclogobius newberryi</i>	C1	CSC	—
Arroyo chub <i>Gila orcutti</i>	—	CSC	—
Amphibians and Reptiles			
Western spadefoot <i>Scaphiopus hammondi</i>	—	CSC	—
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	C1	CSC	—
Coastal western whiptail <i>Cnemidophorus tigris</i> <i>multiscutatus</i>	C2	—	—
Two-striped garter snake <i>Thamnophis hammondi</i>	C2	CSA	—
Coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	C2	CSC	—
Red diamond rattlesnake <i>Crotalus ruber ruber</i>	C2	CSC	—
Birds			
Black-shouldered kite <i>Elanus caeruleus</i>	—	Local Concern	—

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-P-2
Sensitive Species Potentially Occurring
Within the General Plan Study Area

Species	Status		
	Federal	State	CNPS
Birds, continued			
Northern harrier <i>Circus cyaneus</i>	—	CSC	—
Sharp-shinned hawk <i>Accipiter striatus</i>	—	CSC	—
Cooper's hawk <i>Accipiter cooperii</i>	—	CSC	—
Golden eagle <i>Aquila chrysaetos</i>	—	CSC	—
California horned lark <i>Eremophila alpestris actia</i>	C2	—	—
Loggerhead shrike <i>Lanius ludovicianus</i>	C2	—	—
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE	SE	—
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	C2	—	—
Yellow warbler <i>Dendroica petechia</i>	—	CSC	—
Yellow-breasted chat <i>Icteria virens</i>		CSC	—
Blue grosbeak ¹ <i>Guiraca caerulea</i>	—	—	—
Grasshopper sparrow <i>Ammodramus savannarum</i>	—	Local Concern	—
Tricolored blackbird <i>Agelaius tricolor</i>	C2	SCE	—
Mammals			
Pallid bat <i>Antrozous pallidus</i>	—	CSC	—
California mastiff bat <i>Eumops perotis californicus</i>	C2	CSC	—
San Diego black-tailed jackrabbit <i>Lepus californicus benntiti</i>	C2	—	—

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-P-2
Sensitive Species Potentially Occurring
Within the General Plan Study Area

Species	Status		
	Federal	State	CNPS
Mammals, continued			
Northwestern San Diego pocket mouse <i>Perognathus fallax fallax</i>	C2	--	--
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	C2	--	--

¹ Species of local concern due to general habitat reductions in Southern California.

Legend:

Federal Status:

- FE Federally listed as endangered.
- PE Federally proposed as endangered.
- C1 Federal Candidate for listing for which the U.S. Fish and Wildlife Service presently has substantial information on hand to support the biological appropriateness of proposing to list as endangered or threatened.
- C2 Federal Candidate for listing for which information now in possession of the Service indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available.
- C3b Former federal candidate for listing as endangered or threatened, but which is not believed by the Service to represent a distinct taxa meeting the Endangered Species Act's definition of a "species."
- C3c Former federal candidate for listing as endangered or threatened, but which has been judged by the Service to be too widespread or not threatened at this time.

State Status

- SE State listed as endangered.
- ST State threatened.
- SCE State candidate for endangered listing.
- CSC California Species of Special Concern. These are taxa with populations declining seriously or otherwise highly vulnerable to human developments.
- CSA California Special Animal. This is a broad term used to refer to all animals that are of concern to the California Natural Diversity Data Base, regardless of legal or protective status.

California Native Plant Society Listing

- CNPS1B California Native Plant Society list of plants which are considered by CNPS to be rare or endangered in California and elsewhere.
- CNPS2 California Native Plant Society list of plants which are considered by CNPS to be rare or endangered in California, but more common elsewhere.
- CNPS3 California Native Plant Society review list of plants suggested for consideration as endangered but about which more information is needed.
- CNPS4 California Native Plant Society watch list of plants of limited distribution, whose status should be monitored.

March 31, 1994

DRAFT MASTER EIR

The Category 2 Candidate category "comprises taxa for which information now in possession of the Service indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules" (USFWS, 1989, p. 554). In other words, further studies may support a finding that the species should be classified as threatened/endangered. Such candidate species should be considered under Section 15380, unless there is evidence to the contrary that has not been recently considered by USFWS.

Category 3 includes species previously considered to be candidates for listing, but that are being dropped from further consideration. The three subcategories of Category 3 include species no longer considered to be valid taxa, species found to be too common and widespread to warrant listing, and species presumed to be extinct. Species classified as Category 3 are not usually considered under CEQA Section 15380.

State Categories

There are four categories of State listings that clearly place species in the rare/endangered category under CEQA:

- Endangered;
- Threatened;
- Rare; and
- Candidate for Threatened or Endangered.

The first three warrant consideration under CEQA per the CEQA definition. The fourth category is equivalent to Category 1 Candidate in the federal system and, therefore, in practice these species should be considered as rare or endangered under CEQA.

CNPS Categories

The California Native Plant Society (CNPS) has four basic categories of listed plants:

- plants of the highest priority, which are divided into subcategories of plants that are presumed extinct in California, and plants that are rare and endangered in California and elsewhere;
- plants that are rare and endangered in California but more common elsewhere;
- plants about which more information is needed; and
- a "watch list" of plants of limited distribution.

In general, the List 1 plants meet the criteria for protection under CEQA. Some of the List 2 plants could meet the criteria for State listing as a rare or endangered plant in California. However, most do not fall under the definitions in CEQA Guidelines Section 15380 since they are more abundant outside California. Plants on Lists 3 and 4 are not considered as rare or endangered under CEQA unless a change in their status is demonstrated.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Potential Presence of Listed or Proposed Species (Endangered Species Act)

The federal Endangered Species Act (ESA) prohibits the "take" of any listed fish or wildlife species or subspecies. Take is broadly defined in the ESA as hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill. If a proposed activity that could potentially impact a listed species is authorized, funded, or carried out by a federal agency, a Section 7 Consultation with USFWS must be initiated. Any activity that is likely to jeopardize the continued existence of a species or will result in destruction or adverse modification of critical habitat (as determined by USFWS) is prohibited. If no federal agency is involved, the project proponent must apply for a Section 10(a) Permit, which may allow for a limited taking to occur under prescribed conditions for scientific purposes or to enhance the propagation of the species. In either event, USFWS is first required to determine whether the species' continued existence, or habitat designated as critical, could be jeopardized. If a finding of jeopardy is made, USFWS would then be expected to require the project proponent to develop or participate in a conservation program to enhance the survival prospects of the affected species. The two bird species discussed below are potentially present in the General Plan study area, or vicinity, and are of particular concern in this region.

Least Bell's Vireo

The least Bell's vireo, a federal and State listed endangered species, is potentially present in the General Plan study area, although appropriate habitat is limited. If the species is observed in the area in the future, or if the willow forest area is determined to be critical habitat, the ESA would be applicable as it relates to this bird and its associated habitat.

Because the species is listed as endangered by the Secretary of the Interior (USFWS), consultation with USFWS would be required under Section 7 for any actions potentially affecting the vireo or its habitat. Irrespective of the formal consultation requirements under Section 7, conferencing is recommended in the early stage of project development as part of the Army Corps of Engineers' 404 permitting process. USFWS must be contacted, prior to 404 approval, regarding the potential presence of any listed or proposed endangered species. USFWS has the opportunity to review and comment on all materials submitted to the Corps, including mitigation proposals. By coordinating with USFWS early, the project proponent can determine what mitigation measures USFWS deems appropriate. Please see the subsequent discussion regarding 404 permitting for further information about the role of USFWS in that process.

Design and implementation of mitigation measures, with input from USFWS and CDFG, in the form of wetland and riparian habitat creation or enhancement to offset adverse impacts to that community may help to satisfy the agency that the project will not result in jeopardy to the species.

California Gnatcatcher

The California gnatcatcher is known to occupy coastal sage scrub habitat in the vicinity of the General Plan study area, but none of the limited coastal sage scrub in the General Plan study area is considered to be suitable or appropriate for this species due to very small habitat patch size, isolation from larger natural areas, and low cover densities. This species is currently under consideration by the USFWS to be listed as either a threatened or endangered species. A determination of its listing status is scheduled to be made on or before March 17, 1993. This species is likely, therefore, to become an issue within the General Plan study area in future without the creation of more suitable habitat.

Potential Presence of Other Sensitive Species

For most of the plants and animals appearing in Table IV-P-2, the likelihood that they occur in the General Plan study area is slight, or limited to rare visitation. These species should be considered, nevertheless, because their potential occurrence cannot be ruled out based on the presence of at least marginally suitable habitat. The estimated potential for occurrence of the species named in Table IV-P-3, along with the habitat type(s) with which they could be associated.

Table IV-P-3
Species with Potential for Occurrence

Species	Habitat ¹ (in order of expected preference)
High Potential²	
Coastal western whiptail	2.3, 4.1, 7.3, 4.6
Black-shouldered kite (foraging)	4.1, 4.6, 6.2
Northern harrier (foraging)	all
Sharp-shinned hawk (foraging)	all
Cooper's hawk (foraging)	all
California horned lark	4.1, 4.6
Loggerhead shrike	4.1, 4.6, 2.3
Grasshopper sparrow	4.1
Tricolored blackbird (foraging)	all
San Diego black-tailed jackrabbit	2.3, 4.1, 4.6, 7.3
Pallid bat (foraging)	all
Low to Medium Potential³	
Western dichondra	2.3
Many-stemmed dudleya	2.3
Orange County Turkish rugging	2.3
Arroyo chub	Aliso Creek, Oso Creek
Western spadefoot	7.3, 7.6, 2.3, 4.1
Southwestern pond turtle	12.1, 6.2, 7.3, 7.6
Two-striped garter snake	12.1, 7.3, 7.6, 6.2
Coast patch-nosed snake	2.3, 4.1, 4.6, 7.3

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-P-3
Species with Potential for Occurrence

Species	Habitat ¹ (in order of expected preference)
Low to Medium Potential, continued	
Red diamond rattlesnake	2.3, 4.1
Northern harrier (nesting)	4.1
Cooper's hawk (nesting)	7.6
So. Cal. rufous-crowned sparrow	2.3
Yellow warbler	7.6, 7.3
Yellow breasted chat	7.6, 7.3
Blue grosbeak	7.6, 7.3, 2.3, 4.1
Northwestern San Diego pocket mouse	4.1, 2.3
San Diego desert woodrat	2.3, 4.1, 4.6
California Mastiff bat (foraging)	all
Unlikely to Occur	
Tidewater goby	Oso Creek, Aliso Creek
Golden eagle	all
Tricolored blackbird (nesting colony)	6.2

Source: LSA Associates, Inc., 1993.

¹ Numerical codes correspond to the Orange County Habitat Classification System (1992). See Figure IV-P-1 for habitat type names.

² Regularly found in coastal Orange county, preferred habitat present in General Plan study area.

³ Preferred habitat present but relatively isolated or disturbed, species sensitive to disturbance, species populations considered diminished locally or regionally.

⁴ Habitat may be lacking, or too limited or disturbed.

DRAFT MASTER EIR

Other Biological Issues

Streambed Alteration

Drainages, streambeds, ponds and adjacent wetlands are subject to consideration as important resources under the jurisdiction of both the Army Corps of Engineers (Corps) and CDFG. Any development considered by the City that would include dredging, filling, or other alterations that would impact drainage courses and/or adjacent wetlands would be subject to review and permitting by these agencies. Resources in the General Plan study area that may be subject to the existing regulatory mechanisms described below include, but may not be limited to, all streambeds, open water (12.1) and associated brackish marsh (6.2), and riparian habitats (7.3, 7.6), as shown on Figure IV-P-1. These resources include Veeh Reservoir, Aliso Creek, and several tributary channels to San Diego Creek and Aliso Creek.

It is important to recognize that complex criteria are used to define the limit of Corps jurisdiction within a given area, and that CDFG does not use the same criteria. Therefore, an essential step in planning development activities that could affect wetlands or waters is performance of a "jurisdictional determination" to assess the nature and the extent of areas subject to the permit authority of these agencies on a case by case basis. A brief overview of the rationale and criteria used by the Corps and CDFG in defining "wetlands" and "waters of the U.S." is presented in the following Regulatory Mechanisms Section.

In general, both State (CDFG) and federal (Corps, EPA, USFWS) permitting agencies maintain a "no net loss" policy regarding actions that affect wetlands. Therefore, any proposed activity that would result in a loss of wetland area or habitat value must demonstrate that such impacts have been avoided to the maximum extent practicable, or provide compensatory mitigation. When proposed mitigation involves habitat creation or restoration, agencies typically expect greater than one-to-one replacement of habitat area. Greater than one-to-one habitat area replacement is preferred partly because there is often a considerable time lag between the initial loss of wetland and the actual development of comparable habitat, and partly because many attempts to create or restore wetland habitat have failed or fallen far short of replacement goals. Therefore, when considering development projects that would impact jurisdictional waters or wetlands, the City should ascertain that adequate areas are available and appropriate to implement offsetting mitigation measures. Likewise, the potential costs and difficulties associated with wetland habitat creation or restoration plans should be considered and reviewed with agency representatives early in the planning process.

Regulatory Mechanisms

Army Corps of Engineers -- Section 404 Permits

The Corps is responsible for all waters of the United States, which are essentially defined as waters tributary to a major water body. Therefore, any alteration to these waters may be required to undergo review for a Section 404 Permit from the Corps. This Permit is required by Section 404 of the Clean Water Act, which regulates the disposal of dredge or fill material in waters of the United States. The Corps is responsible for reviewing applications for 404 Permits for environmental impacts of the proposed dredge or fill material. In the case of small impact areas, i.e., less than one acre, a project is generally included under the existing Nationwide Permit 26. However, inclusion in this permit is subject to a number of conditions. One of these conditions is that if a federally listed or proposed endangered or threatened species (such as the least Bell's vireo) is affected by a project, the Corps consults with USFWS as required by Section 7 of the ESA. Based on this consultation and the evaluation of impacts by USFWS, the Corps can issue or deny a 404 Permit, or require further studies or require mitigation prior to issuance of a Permit.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Wetland/Jurisdictional Determination

The Corps regulates discharges of dredged or fill material into *waters of the United States*. These *waters* include *wetlands* and non-wetland bodies of water that meet specific criteria. Corps regulatory jurisdiction pursuant to Section 404 of the Clean Water Act is founded on a connection or *nexus* between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations. The following definition of waters of the United States is taken from the federal Clean Water Act (33 CFR 328.3):

"The term waters of the United States means:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce...;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams)...the use, degradation or destruction of which could affect interstate or foreign commerce...;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters defined in paragraphs (a) (1)-(4) of this section; ... "

Examples given in the regulations of interstate commerce connections for isolated (non-tributary) waters, the presence of which would establish the required nexus, include: waters that are or could be used by interstate or foreign travelers for recreational or other purposes; waters from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or waters that are or could be used for industrial purposes by industries in interstate commerce. The preamble to the regulations gives four additional examples: waters that are or would be used as habitat by birds protected by Migratory Bird Treaties; waters that are or would be used as habitat by other migratory birds that cross state lines; waters that are or would be used as habitat for endangered species; or waters that are or would be used to irrigate crops sold in interstate commerce.

The jurisdictional extent of *waters of the U.S.* encompasses all channel areas displaying visible signs of at least intermittent water flow, extending laterally to the *ordinary high water mark* (OHWM), or the limit of any wetlands extending beyond that mark, and upstream to that point where the OHWM is no longer perceptible.

The Corps and EPA define wetlands as follows:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions."

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In order to be considered a *jurisdictional wetland* under Section 404, an area must possess *three* wetland characteristics: *hydrophytic vegetation*, *hydric soils*, and wetland *hydrology*. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met. Several parameters may be analyzed to determine whether the criteria are satisfied.

Wetland delineations for 404 purposes are typically done according to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987). This manual provides two different approaches to delineating wetlands depending on the complexity of the site and whether there is a need for quantitative evaluation and extensive documentation. For small, relatively homogeneous sites, the routine on-site evaluation method is appropriate. This is the method applied in the majority of wetland delineations.

Determination of wetland limits may be obscured by a variety of natural environmental factors, including cyclic periods of drought and flooding or highly ephemeral stream systems. During periods of drought, for example, bank return flows are reduced and water tables lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary, and may allow temporary invasion of hydrophytic species into non-wetland areas. In highly ephemeral systems, typical of Southern California, these problems are encountered frequently. In these situations, professional judgement and knowledge of local ecological conditions come into play in delineating wetlands.

California Department of Fish and Game - Streambed Alteration Agreements

CDFG policies for protection of stream resources are implemented through the 1601/1603 Streambed Alteration Agreement. CDFG requires notification of any proposed streambed alteration as the result of a project. CDFG, through provisions of the State of California Administrative Code (Section 1600 et al.), is empowered to issue agreements for any alteration of a river, stream or lake where fish or wildlife resources may adversely be affected.

Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. CDFG regulates wetland areas only to the extent that those wetlands are part of a river, stream or lake as defined by CDFG.

Water Quality Certification

In addition to the administration of regulations by the Corps and CDFG where drainage courses may be affected, projects also fall under the jurisdiction of the State Water Resources Control Board (SWRCB), as administered by its Regional Water Quality Control Boards, through two separate regulatory pathways. First, the Corps cannot issue a Section 404 Permit until the SWRCB certifies that a project is consistent with Section 401 of the Clean Water Act. If a project is consistent with this section of the Clean Water Act, a Water Quality Certification or a waiver may be issued by the RWQCB.

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Formerly, the SWRCB had certified that all Nationwide Permits for projects located within the State were consistent with Section 401, and project by project review by the SWRCB was not required. However, revised Nationwide Permits became effective on January 21, 1992, and the SWRCB has not yet certified that these Permits are consistent with Section 401. Therefore, in order to qualify for a Section 404 Permit, the SWRCB is determining the consistency on a case by case basis through project review by its Regional Boards. This situation may change pending issue of a blanket certification of the revised Nationwide Permits by the SWRCB, which appears to be unlikely in the immediate future.

Second, since the State of California has prepared an approved environmental regulatory program, the EPA delegates its National Pollutant Discharge Elimination System (NPDES) permitting authority to the SWRCB under the provisions of the Clean Water Act. The regulations emphasize the use of best management practices ("BMPs"), legal and institutional mechanisms, and design and engineering methods to control the discharge of pollutants into waters of the United States. The EPA defines BMPs as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States." A more detailed discussion of the program and the status of NPDES permitting in the General Plan study area is provided in the Water Resources section of the Master EIR.

Wildlife Corridors

Another biological resource of special concern within the General Plan study area is the preservation of wildlife movement opportunities. The County of Orange, CDFG, USFWS, and numerous non-governmental organizations, such as the Audubon Society, have all expressed concerns about the adverse effects of urbanization, particularly on areas functioning as movement corridors.

Wildlife corridors are important for three main reasons. The first reason is that they allow movement through all habitat areas suitable for use by a species, even those areas not currently being used. The second reason is that corridors allow for recolonization of areas that were historically occupied but from which the species has been extirpated. The third reason is that corridors allow the exchange of genetic material to occur between populations, which is important in preserving genetic diversity within and between populations (Impact Sciences, 1982). Genetic diversity plays a primary role in the ability of a population (or a whole species) to adapt to changing environmental conditions.

The General Plan study area is crossed by the Aliso Creek corridor at Los Alisos Boulevard below Interstate 5. Aliso Creek has been identified by the County of Orange as an important biological resource that potentially offers opportunities for wildlife movement. Because of the fragmentation of habitats due to freeways, roads, housing development and other urban related barriers, this linkage within the General Plan study area needs to be preserved and enhanced to the extent practicable.

Multi-Species Preservation

Many governmental agencies have initiated efforts to protect multiple species within planning areas in an effort to minimize the preparation of successive documents each time a species is listed. These multiple species documents also provide for protection of candidate or sensitive resources that are not yet listed but may still warrant protection. A multi-species approach towards habitat preservation can effectively postpone or ultimately eliminate the need to list individual species that are candidates for State or federal listing. In addition, to the extent that preservation efforts conform to the State and federal guidelines for habitat conservation, a multi-species plan can be used as a basis for obtaining permits from CDFG and USFWS where a species is officially listed. Similarly, a multi-species plan can form the groundwork for pre-listing agreements with the agencies, when individual development projects desire other processing alternatives.

DRAFT MASTER EIR

In Laguna Hills, although there are few, if any, known species listed by CDFG and USFWS, there are several candidate species (see Table IV-P-2) that could benefit by the City's participation in a regional, multi-species planning effort. The City may investigate ways and means to participate as a cooperative member of a program currently underway in Orange County, known as the NCCP process, described below. Laguna Hills lies approximately adjacent to the eastern edge of the coastal sub-regional area of the Orange County NCCP currently being developed. Involvement in this planning process would focus primarily on developing conservation and restoration programs for coastal sage scrub habitat in and around Laguna Hills, and implementing management guidelines for areas where natural and urbanized areas interface.

NCCP Process

State and local agencies are now applying a new multi-species approach to coastal sage scrub habitat conservation known as the Natural Communities Conservation Planning process. This was made possible by recently enacted legislation (Assembly Bill 2172) that authorizes the Department of Fish and Game to enter into agreements for the preparation and implementation of Natural Community Conservation Plans (NCCPs). Southern California's coastal sage scrub habitat is the first natural community to which this conservation planning process has been applied.

The NCCP planning process is a joint project of the California Resources Agency and the California Environmental Trust, currently being developed and tested in Southern California. A group of five prominent conservation biologists was selected to form a Scientific Review Panel (SRP) to support the project. The goals of the pilot program are to identify significantly important coastal sage scrub habitat and to develop ways and means to preserve and/or restore the ecological value of this plant community and its attendant sensitive species in a rapidly urbanizing setting. If successful, the NCCP process will result in permanent preservation of significant gnatcatcher habitat, and the process would serve as a prototype program for other areas of California and the United States as an alternative to the federal and State endangered species listing process.

In Orange County, the development of several sub-regional NCCP/HCPs for coastal sage scrub is being undertaken jointly by the County of Orange, the Transportation Corridor Agency, USFWS, and CDFG, in cooperation with several large private landowners, including The Irvine Company, with the County of Orange as the Lead Agency. The Irvine Company and USFWS also recently signed a Memorandum of Understanding regarding the preparation of a Habitat Conservation Plan (HCP) for the California gnatcatcher. As currently contemplated, the HCP will, to the extent feasible, address a range of species issues and, in particular, sub-regional habitat needs of the California gnatcatcher. By linking the NCCP program with the HCP, it should be possible to simultaneously address the principal conservation objectives of both the State and federal resource agencies.

According to an Irvine Company representative, approximately 80 percent of the coastal sage habitat in Orange County is presently enrolled in the NCCP program. The San Joaquin Hills, west of the General Plan study area, will be treated as a portion of the coastal sub-regional NCCP/HCP. Work has already begun on the NCCP/HCP plans, which will include an inventory of existing resources, identification of ways to set aside natural areas for preservation, and development of a management plan for natural areas that interface urbanized areas to facilitate coexistence of the two land uses.

DRAFT MASTER EIR

PROJECT IMPACTS

The impacts of the proposed General Plan on biological resources are discussed in the Biological Resources Section of the Environmental Resources portion of the General Plan. Because very little open space land will be converted to urban uses as a result of implementation of the proposed plan, and since none of these proposed areas are located within or adjacent to "Areas of Environmental Sensitivity" as defined by the General Plan, there will be no significant impacts to sensitive species or habitats as a result of the proposed General Plan.

MITIGATION MEASURES

(P.1) Areas that have been identified as environmentally sensitive (Figure IV.P.1 of the Master EIR) and that have viable habitats are to be protected in place unless one or more of the below listed conditions can be met. Viable habitats are defined as the vegetative resources that contribute to habitat carrying capacity (vegetative species diversity, faunal resting areas, foraging areas, and food sources) and other significant biotic features.

- the area has been designated as having little or no value as viable habitat and could not be improved;
- the disruption of the habitat will be mitigated elsewhere on the site so as to create an improvement of the overall habitat;
- the site has been included in a local or regional habitat conservation plan where disruption of the site will be offset by improvements elsewhere in the planning area;
- the site has been reviewed in City's Open Space Management Plan as having no existing viable habitat worthy of preservation or improvement; or
- an environmental finding is made that includes a statement of overriding considerations that outweigh the development impact.

(P.2) The City of Laguna Hills shall require that development within or adjacent to identified environmentally sensitive areas provide a 100 foot setback from viable biological habitat. Such setbacks will, preferably, be accompanied by protective fencing or other buffers during the construction of the development.

Where riparian vegetation has previously been removed, except for channelization, the buffer that is provided shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.

MITIGATION MONITORING

The City of Laguna Hills shall review and update the Open Space Lands Inventory on an annual basis along with measures that have been adopted to preserve biotic resources.

Q. ENERGY RESOURCES

EXISTING SETTING

Electricity

Electrical power is provided to the City of Laguna Hills by the San Diego Gas and Electric Company (SDG & E) and Southern California Edison (SCE). Figure IV-Q-1 delineates the boundaries of the two service areas as they relate to the City. Power from SDG & E is transmitted through 138 kV transmission lines to the Trabuco Substation located near the City of Laguna Hills boundary (between Camino Capistrano and I-5 north of Crown Valley Parkway), where the voltage is transformed to 12 kV for distribution to SDG & E customers throughout the City.

Power from SCE is transmitted through 66 kV transmission lines to four substations outside of the City where the voltage is transformed to 12 kV for distribution to SCE customers in the City and its sphere of influence. The substations are:

- Moulton Substation at Los Alisos Boulevard and I-5;
- Niguel Substation on Alicia Parkway north of Aliso Creek Road;
- Borrego Substation at El Toro Road and Aliso Creek Road; and
- Santiago Substation near Sand Canyon Avenue and Laguna Canyon Road.

One 66 kV line and two 220 kV lines traverse the City. These aboveground transmission lines bring power north from San Onofre and cross the City in a westerly direction from Paseo de Valencia and I-5 to roughly Laguna Hills Drive and Moulton Parkway. At a cost of approximately \$10 million per mile, SCE has no plans to underground these facilities.

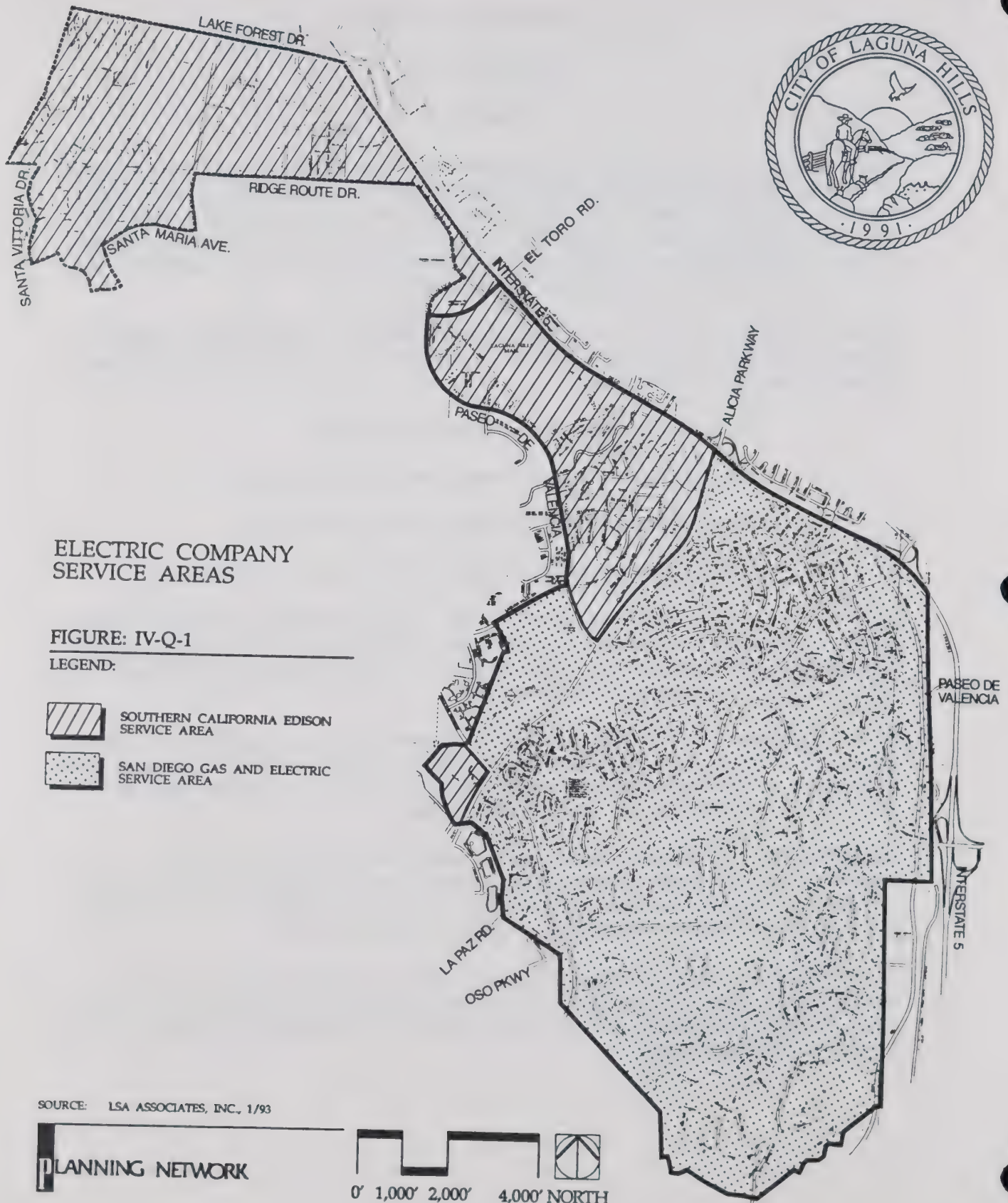
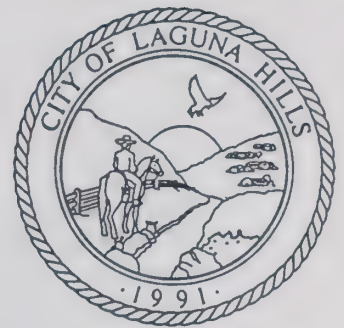
SDG & E engineers review the load forecasts for proposed development, and evaluate the existing circuits for their adequacy. Any needed improvements identified are funded by developers. Maintenance and improvement projects for the existing infrastructure are made according to a five year plan that is updated annually, and are funded by user fees.

Within the SCE service area, new development or redevelopment projects are reviewed on a case by case basis, and any necessary upgrades to the distribution system are funded by developers. Routine maintenance of the system is funded by SCE and its ratepayers. Both SDG & E and SCE indicate that their present facilities are adequate, and no major upgrades are planned.

The South Coast Air Quality Management District (SCAQMD) publishes consumption factors (Air Quality Handbook) for electricity consumption. These factors are shown in Table IV-Q-1, below. Based upon these consumption factors, the General Plan study area consumes approximately 650,000 kilowatts of electricity per day.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



SOURCE: LSA ASSOCIATES, INC., 1/93

March 31, 1994

IV-Q-2

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-Q-1
SCAQMD Electrical Consumption Factors

Land Use	Use Factors ¹
Residential (R-1)	6,081/unit
Mixed Commercial (Retail, restaurant, food store, misc.)	29.8/sf
Retail Commercial	11.8/sf
Institutional (School, college, hospital, misc.)	8.8/sf
Office	8.8/sf

Source: LSA Associates, Inc., 1993.

¹ Annual kilowatts of electrical use.

Natural Gas

The Gas Company (formerly Southern California Gas Company) provides natural gas to the City of Laguna Hills and its sphere of influence. A Gas Company transmission line following the Atchison, Topeka and Santa Fe Railroad right-of-way along the City's eastern boundary brings natural gas from San Diego to Orange County. A twelve-inch supply line extends from the transmission line to the ocean along La Paz Road for distribution to the City and adjacent areas.

The Gas Company indicates that the existing facilities are adequate to meet present needs within the City and its sphere of influence and no upgrades or improvements are planned. Facilities planning in built out areas such as Laguna Hills consists mainly of maintenance and improvement of existing infrastructure, based on the size, condition and year of installation of pipes. Because most of the Laguna Hills system is relatively new (installed within the last 20 years), no major maintenance or improvement is necessary.

The Gas Company uses the consumption factors shown in Table IV-Q-2, below, for calculating natural gas consumption. Based upon these consumption factors, the General Plan study area uses approximately 19,000 therms per day for residential uses, and approximately 525,000 cubic feet of natural gas per day for commercial uses.

DRAFT MASTER EIR

Table IV-Q-2
Natural Gas Consumption Factors

Land Use	Use Factors
Single Family Residential	750 therms per year per unit
Multi-Family Residential	475 therms per year per unit
Office	2.0 cf per mo/ft
Shopping Centers/Retail Stores	2.9 cf per mo/ft
Hotel/Motel	4.8 cf per mo/ft
Industrial	2,939.6 x 10 cf per year per customer

Source: LSA Associates, Inc., 1993.

PROJECT IMPACTS

The impacts of the proposed General Plan on energy consumption are discussed in the Energy Resources Section of the Environmental Resources portion of the General Plan. According to Table V-1 in the Alternatives Section of the Master EIR, the City will generate a demand for approximately 672,557 kilowatts hours of electricity per day and approximately 2,677,960 cubic feet of natural gas per day at build out, or approximately a one percent increase over current conditions.

MITIGATION MEASURES

- (Q.1)** The City of Laguna Hills shall require that all new development employ energy conservation measures to meet Title 24 requirements of the California Government Code.

MITIGATION MONITORING

Prior to the issuance of building permits, applicants shall provide documentation to the City of Laguna Hills Building Official that all proposed structures meet or exceed Title 24 requirements of the California Government Code regarding energy conservation.

R. WATER RESOURCES

EXISTING SETTING

Surface Resources

The drainage area for the General Plan study area is located in the southwestern part of Orange County, and is bounded by natural ridge lines that clearly form major drainage boundaries. On the north and west is the Aliso Creek watershed, on the east is the Oso Creek watershed, and just beyond the southern boundary of the General Plan study area is the Sulphur Creek drainage area. Most of the General Plan study area drains into Aliso Creek, which drains through Laguna Niguel and Laguna Beach before emptying into the Pacific Ocean.

The General Plan study area has a Mediterranean type climate, characterized by long, dry summers and mild winters. The average annual precipitation is 13 inches, which can increase to 18 inches *or more*. The major portion of the precipitation occurs during the period from November through March, with little or no rain from May through October.

Three types of storms produce precipitation in the area: general winter storms, thunderstorms, and tropical storms. Past flooding has been caused for the most part by high intensity rainfall associated with general winter storms. During winter storms, water in the streambeds can rise to flood flow stages in a few hours.

Runoff occurs when the rate of precipitation exceeds the loss rate of water into the soil. A thin film of water forms and begins to flow downslope. Soil characteristics are the major factors influencing the ability of water to penetrate soil or to become runoff. These soils surface characteristics, the ability of water to be transmitted to subsurface layers and total water storage capacity are all factors in the infiltration capabilities of a particular soil. Water runoff rates increase on soils that have a low infiltration rate. Soils are classified in the Orange County Hydrologic Manual into four hydrologic soils groups, which range from low (Group A) runoff potential to high (Group D) runoff potential. These groups are discussed below and shown on Figure IV-R-1.

- **Group A:** Low runoff potential. Soils having high infiltration capacities even when thoroughly wetted, and consisting chiefly of deep, well to excessively well drained sands or gravels. These soils have a high rate of water transmission.
- **Group B:** Soils having moderate infiltration capacities when thoroughly wetted, and consisting chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- **Group C:** Soils having low infiltration capacities when thoroughly wetted, and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a low rate of water transmission.

DRAFT MASTER EIR

- **Group D:** High runoff potential. Soils having very low infiltration capacities when thoroughly wetted, and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface and shallow soils over nearly impervious material. These soils have a very low rate of water transmission.

Soil Groups within the General Plan study area are primarily Groups B and D, with a very minor amount of Group A at the northwestern boundary of the General Plan study area. These soils mainly have a high to moderate runoff potential. However, the City of Laguna Hills is nearly fully developed, little open space remains, and the runoff stems from the paved or developed areas, leaving the underlying soils types to play a minor role in determining the amount of runoff.

Floodplain Studies

Floodplain studies have been conducted as part of the National Flood Insurance Program (NFIP) in various cities in Southern California, including the City of Laguna Hills and its sphere of influence. The study results are presented as floodplain boundary maps called the Flood Insurance Rate Maps (FIRMS). The FIRMS covering the General Plan study area indicate that Aliso Creek and the area along Alicia and Moulton in southern Laguna Hills are located in a 100 year flood prone area, as is the wetlands area in the sphere of influence near Veeh Reservoir. Figure IV-R-2 depicts the location of the 100-year floodplain hazard areas.

Drainage Facilities

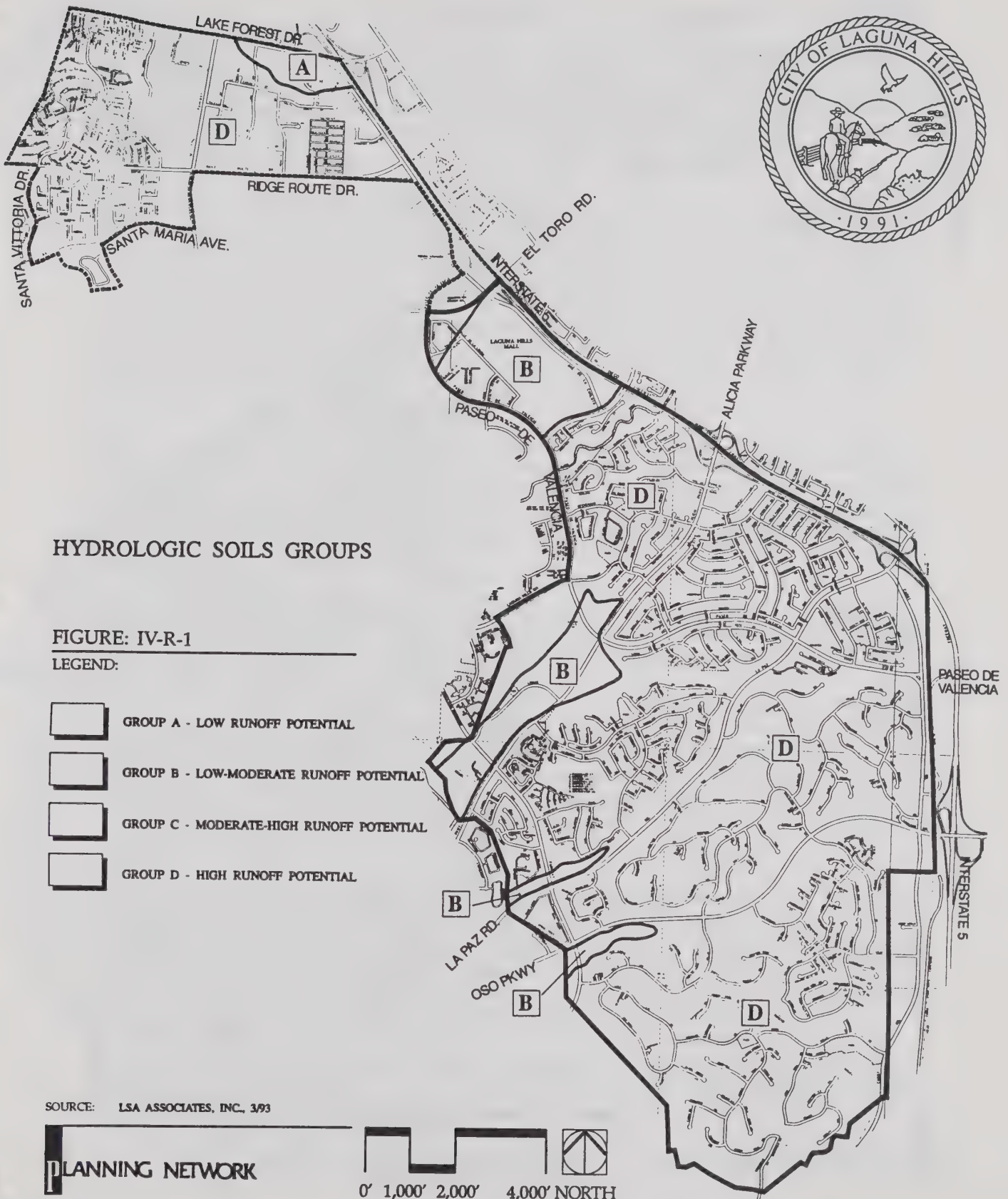
Major collector channels, storm drains, and flood control facilities are considered Regional Facilities, and are under the jurisdiction of the Orange County Environmental Management Agency. Storm drain systems that are locally controlled, in contrast, are the responsibility of the City of Laguna Hills.

The entire developed portions of the City are served by storm drain lines and catch basins that have been constructed in the last 10 to 15 years. No existing storm drain lines are known to be deficient. The existing storm drain system in the developed area adequately conveys drainage runoff to the local streams and creek systems that serve the area. At present, Aliso Creek provides major drainage from the San Diego Freeway (I-5) to the Pacific Ocean. A small area of the eastern part of the City of Laguna Hills drains into Oso Creek. In addition, a wetlands area located at Ridge Route and Moulton also accepts water during the rainy season. Local drainage facilities, generally consisting of underground closed conduits, have been constructed in residential and commercial areas and within existing culverts across major arterials. Local drainages are described in more detail in the Infrastructure Section of this document.

Per the County Flood Control District, these facilities have been built consistent with, and in conformance with, the County's Master Plan of Drainage and Flood Control.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

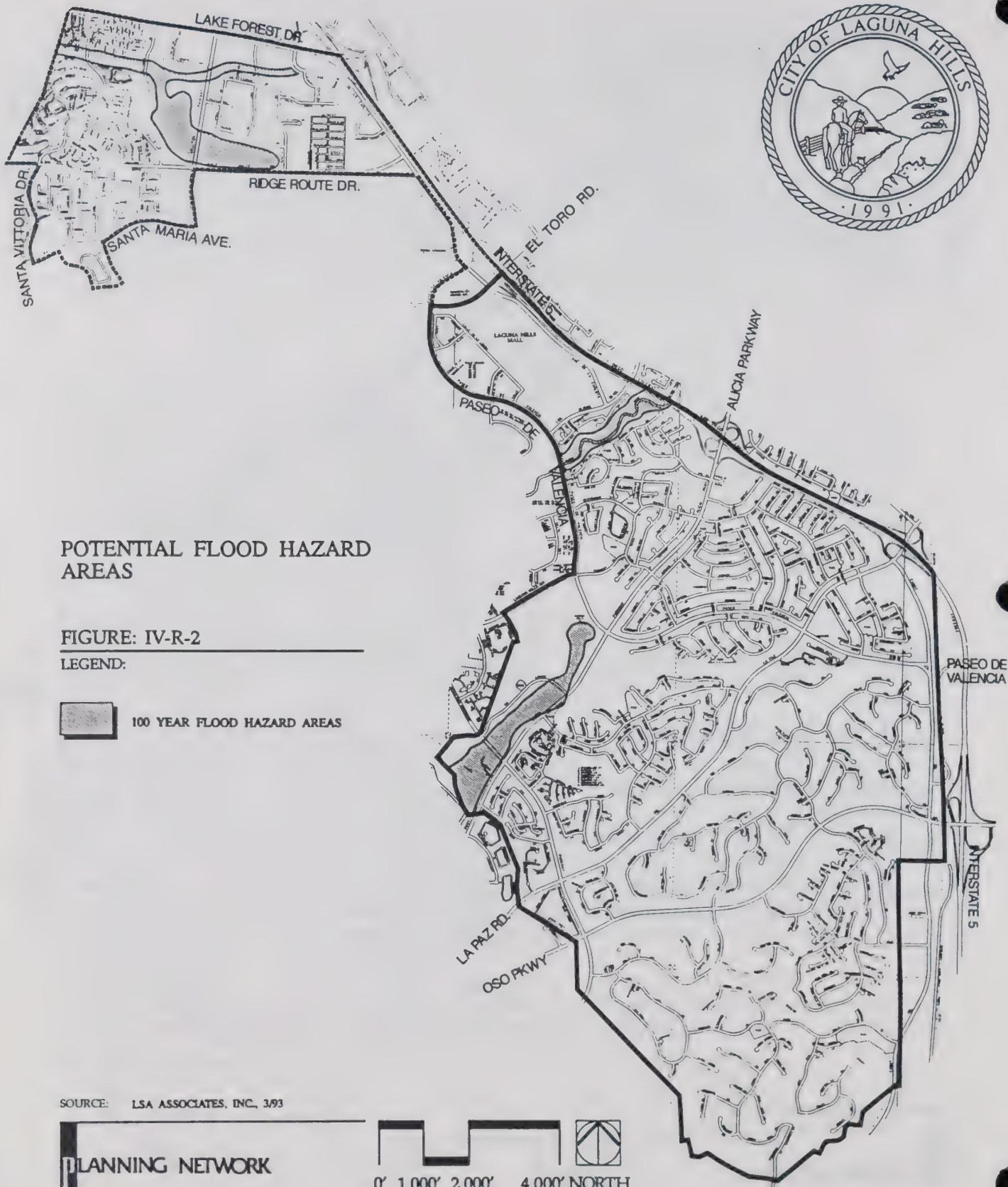
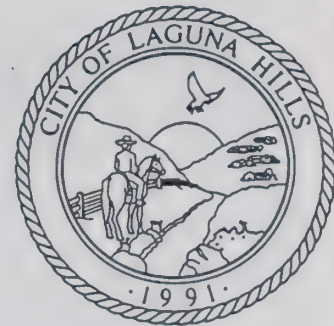


March 31, 1994

IV-R-3

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

IV-R-4

Water Quality

Water quality is defined in terms of the physical, chemical, and biological properties of water pertinent to the use under consideration. The groundwater quality in the Orange County basin has been deteriorating over the years due to the infiltration of chemicals and salts from agricultural operations, saltwater intrusion, sewer outfalls, and the poor quality of Colorado River water used to recharge the groundwater basin.

The United States Public Health Standard for drinking water is 500 parts per million (ppm) of total dissolved solids (TDS). Water imported from the Colorado River exceeds this standard, with over 700 ppm TDS. Substantial portions of Orange County groundwater contain 600 ppm TDS, which also exceeds the federal standard. The importation of State Water Project (SWP) water, which has 230 ppm TDS, for groundwater recharge and direct delivery to consumers has somewhat improved the quality of tap water consumed in the County. However, because the quantity available is limited, other methods for improving quality are being studied and developed by local and regional water agencies. Meanwhile, the use of bottled water and home water softeners is rapidly expanding throughout the County.

Both the State and federal governments have implemented programs that are intended to maintain or improve the quality of urban runoff. The primary responsibility for regulating activities that affect the water quality of all waters within the State rests with the State Water Resources Control Board (SWRCB). In accordance with the Federal Pollution Control Act of 1972 and the Porter-Cologne Water Quality Control Act of 1969, water quality control plans were prepared for each of the 16 planning basins within the State.

Within Orange County, this State mandated program consists of the Water Quality Control Plan for the Santa Ana River Basin (1984). This plan identifies the beneficial uses and water quality objectives in the Santa Ana River Basin and is under the jurisdiction of the California Regional Water Quality Control Board - Santa Ana Region (RWQCB-SA).

At the federal level, the Clean Water Act allows the Environmental Protection Agency (EPA) to delegate its National Pollutant Discharge Elimination System (NPDES) permitting authority to states with an approved regulatory program. The State of California is one of the delegated states. The Porter-Cologne Act (California Water Code) authorizes the SWRCB, through its Regional Boards, to regulate and control the discharge of pollutants into waters of the State by issuance of NPDES permits.

To regulate and control stormwater discharges from the Orange County area, the RWQCB-SA determined that an areawide approach is essential. The entire storm drain system is not controlled by a single entity; the County of Orange, the Orange County Flood Control District (OCFCD) and several cities manage the system. The RWQCB-SA and a majority of the cities and the County have concluded that the best management option for the Orange County area is to issue an areawide stormwater permit. On July 13, 1990, the RWQCB issued this NPDES permit.

As a result of the incorporation of the City of Laguna Hills, the City was "grandfathered" into the 1990 NPDES stormwater permit program. Therefore, as a co-permittee with the County of Orange, the City has the following responsibilities:

- Conducting storm drain system inspections on an annual or as needed basis;

DRAFT MASTER EIR

- Conducting and coordinating with the County of Orange, on an as needed basis, any surveys and characterizations needed to identify pollutant sources and their drainage areas;
- Implementing management programs, monitoring programs and implementation programs;
- Pursuing enforcement actions as necessary to ensure compliance with the storm water management programs and the implementation plans; and
- Responding to emergency situations such as accidental spill, leaks, illegal discharges/illicit connections, etc. to prevent or reduce the discharge of pollutants to storm drain systems and waters of the United States.

The July 13, 1990, NPDES areawide stormwater permit contains requirements with time schedules that will allow the County of Orange and the cities to address current water quality problems caused by pollutants in stormwater discharges and improve the water quality of the receiving waters. The definition of "stormwater" as used by the RWQCB-SA is broad, and includes discharges from storm events.

As part of the program to reduce these pollutants to the maximum extent practicable, the dischargers (i.e., County of Orange, the OCFCD, in cooperation with the 213 participating cities, including Laguna Hills) are required to submit management plans and programs being implemented in the localities, and information that could lead to successful identification of illegal discharges and sources of pollutants. In addition, the dischargers will be required to adopt and implement effective management programs and control measures in accordance with time schedules approved by the Executive Officer of the Regional Board.

The permit also requires development and implementation of management programs (Best Management Practices or BMPs) during the life of the permit such that the quality of stormwater discharged can be improved and the water quality of the receiving waters can be met. The beneficial uses of the receiving waters will be protected through implementation of BMPs. The BMPs are water quality management practices that maximize the efficiency of the control of stormwater runoff pollution. These BMPs are required both during and after construction.

Urban runoff from developed areas carries pollutants from man-made surfaces and chemicals used in urban areas. The primary pollutants of concern in runoff water and sediment from an urban site include:

- Nitrogen and phosphate compounds from lawn and plant bed fertilizers;
- Pesticides, herbicides, fungicides, and rodenticides (if necessary) used in pest and plant control; and
- Zinc, and to a lesser extent copper, lead, cadmium, iron and other trace metals from street surfaces and from products used in urban developments.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

As required under the Orange County NPDES Stormwater Discharge Permit, the dischargers (which include the City of Laguna Hills) are required to develop and implement BMPs to control the discharge of pollutants. According to the County NPDES permit, these BMPs will be required of all new developments both during and after construction. These BMPs consist of both structural and non-structural measures, including detention basins, first flush diversion devices, porous pavements, public education, street sweeping, and neighborhood toxic waste collection plans.

PROJECT IMPACTS

The impacts of the proposed General Plan on water resources are discussed in the Water Resources Section of the Environmental Resources portion of the General Plan. The growth resulting from the proposed General Plan will result in an incremental impact to existing water resources within the study area. These impacts include: increased runoff from new development and increased potential for short-term erosion and transport of sediments to surrounding drainages with a resultant impact on water quality. In addition, as development under the proposed General Plan occurs, the potential for increased impacts to water quality may also occur.

MITIGATION MEASURES

- (R.1) The City of Laguna Hills shall require all new development projects to install reclaimed water systems for irrigation purposes if such reclaimed water is or can be made available by the Moulton Niguel and El Toro Water Districts within five years of the irrigation system construction.
- (R.2) The City of Laguna Hills shall require that new development follow the requirements of the County's National Pollutant Discharge Elimination System permit and implementation programs. All new development shall incorporate urban Best Management Practices (BMPs) to minimize construction and urban pollutants in storm water runoff.
- (R.3) The City of Laguna Hills shall require that all water conservation measures shall be consistent with those described in the *Memorandum of Understanding Regarding Urban Water Conservation in California* as adopted by the Municipal Water District of Orange County and recommended by the City of Laguna Hills.

MITIGATION MONITORING

Prior to project approval, the applicant shall provide documentation to the City of Laguna Hills Community Development Department that the following systems have been included in the project design: on- and off-site storm drain systems that meet current NPDES requirements, an irrigation system designed to accommodate reclaimed water should it become available, and project plantings that are consistent with adopted City landscape and water conservation policies.

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S. MINERAL RESOURCES

EXISTING SETTING

In 1975, the State of California adopted the Surface Mining and Reclamation Act (SMARA). The primary objective of SMARA are the assurance of adequate supplies of mineral resources important to California's economy and the reclamation of mined lands. These objectives are implemented through land use planning and regulatory programs administered by local government with the assistance of the State. The Department of Conservation, Division of Mines and Geology, and the State Mining and Geology Board are the agencies responsible for administering this program at the State level.

The act's mineral resource conservation objective is achieved through a mineral inventory and land use planning process termed classification/designation, which jointly involves the Division of Mines and Geology, the State Mining and Geology Board, and local government. Information on the location of important mineral deposits is developed by the Division through a process of mineral land classification. In turn, the classification report is used by the Board in designating deposits that are of economic significance to a region, the state, or the nation.

In 1982, the State Mining and Geology Board adopted the Classification Report for Orange County. The designation of mineral lands of regional significance occurred in April of 1983, at which time two mineral resource zones were mapped and designated for the Laguna Hills area as follows.

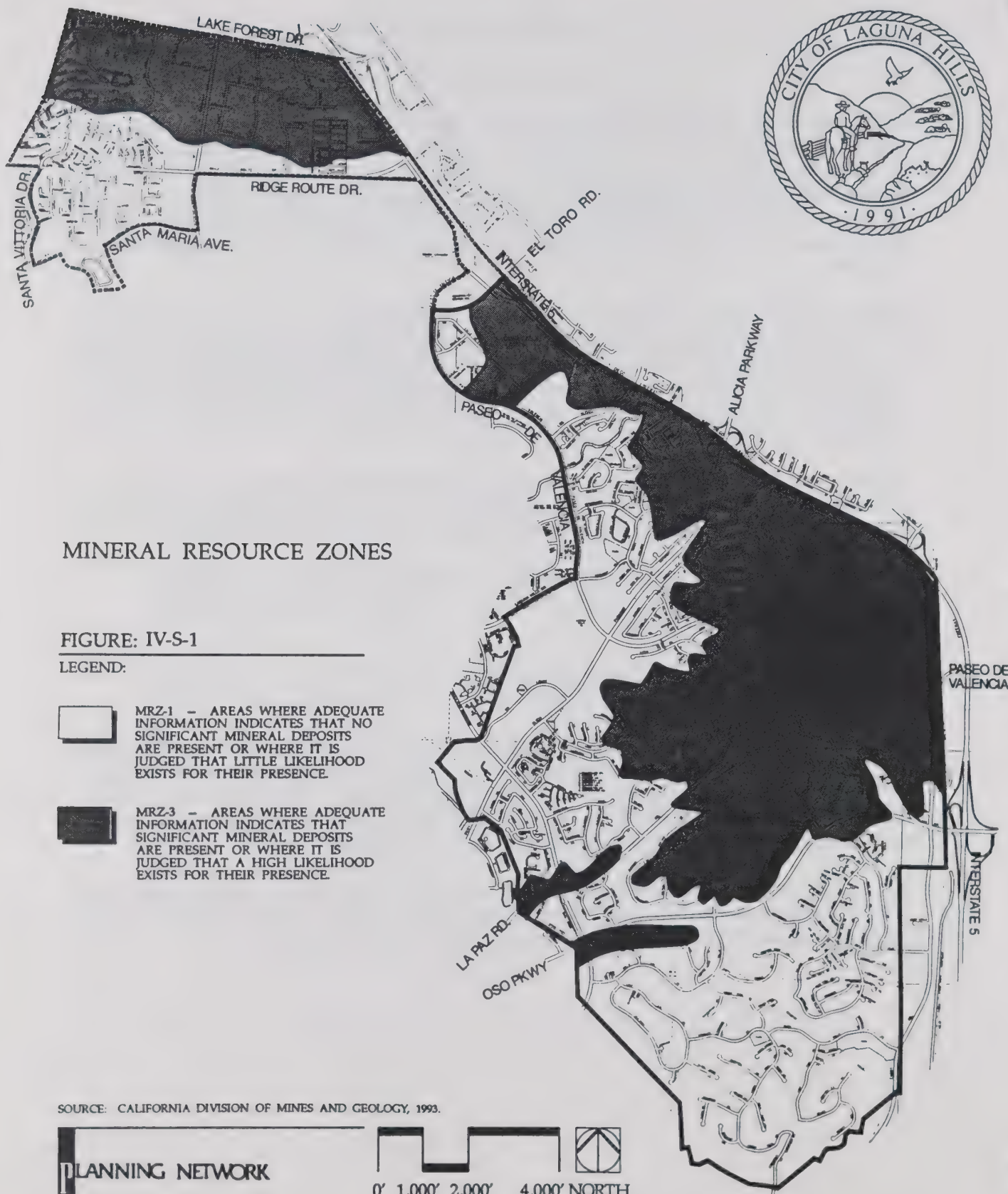
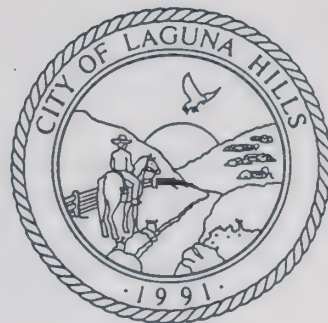
- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-3:** Areas containing mineral deposits the significance of which cannot be evaluated from available data.

The location of mineral resource zones within the Laguna Hills General Plan study area are identified in Figure IV-S-1. As shown, the southern and western portions of Laguna Hills consist largely of areas designated as MRZ-1, areas of no significant mineral deposits. The northeastern portion of Laguna Hills has been designated as MRZ-3, areas containing mineral deposits, although the significance of these deposits cannot be evaluated from available data.

The depiction of mineral resource zones in Figure IV-S-1 is not intended to represent a commitment to mineral extraction for these areas in the General Plan study area. Rather, it responds to the SMARA's mandate to recognize these mineral resource areas in the General Plan.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

PROJECT IMPACTS

The impacts of the proposed General Plan on mineral resources are discussed in the Mineral Resources Section of the Environmental Resources portion of the General Plan. Because there are no such resources identified in the study area, there will be no impacts to or as a result of these resources.

MITIGATION MEASURES

Although mineral resources exist in the study area, the developed nature of the area precludes the potential for mineral extraction in the future. Therefore, no mitigation measures are necessary.

T. HISTORIC RESOURCES

EXISTING SETTING

Environmental Background

Although the cultures changed through time, the earliest inhabitants of the Laguna Hills region built their camps where fresh water and food services could be found. Located in the San Joaquin Hills and the coastal prairie, the Laguna Hills area had abundant natural resources for food and raw materials important to the prehistoric people. Those plant communities in the Laguna Hills area likely used by native people included coastal sage scrub, grasslands, and southern oak woodlands (Munz and Keck 1959).

Coastal Sage Scrub

Coastal sage scrub plants were of considerable subsistence importance to aboriginal populations, providing edible seeds (chia and buckwheat), greens and medicines. Species utilized by the native populations include California sagebrush (*Artemisia californica*), sages (*Salvia* spp.), California brittlebush (*Encelia californica*), laurel sumac (*Malosma laurina*), monkey flower (*Diplacus* spp.) and buckwheat (*Eriogonum* spp.).

Grasslands

Native grasslands on the coastal prairie contain perennial grasses such as needlegrass (*Stipa* spp.), bluegrass (*Poa* spp.), and herbaceous natives such as owl's clover, blue dicks, blue-eyed grass (*Sisyrinchium bellum*) and others. These, too, were food sources for native peoples, as well as the initial support for the Spanish period ranching industries' cattle.

Southern Oak Woodland

The oak trees in the southern oak woodland provided the most important food source for the native people. Oak species such as *Quercus lobata* and *Q. agrifolia* predominate in this habitat; other tree species include California bay (*Umbellularia californica*) and California walnut (*Juglans californica*). The acorn, processed into a storable food, was a staple of the native Californians. Shrubby understory species include poison oak (*Toxicodendron diversilobum*), Mexican elderberry (*Sambucus mexicanus*), used as a vegetable dye, toyon (*Heteromeles arbutifolia*) used as food and medicine.

Laguna Hills' Earliest Inhabitants

Knowledge about the earliest inhabitants of the Laguna Hills area is based upon the regional evidence for early cultures documented along the Orange County coast. With a clear knowledge of the regional prehistory background, the prehistoric sites found in Laguna Hills provide significant information on the long-term use of the area and contribute to understanding how these early people lived. The evidence for these early peoples is based upon the laboratory dating of food remains from deep deposits of the villages found around the Newport Bay. The earliest inhabitants of whom we know lived in the Orange County area around 6000 B.C. Discovered artifacts from these inhabitants included large projectile points, scrapers and semicircular stone tools called crescentics.

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After 5500 B.C., there is evidence that the early populations were increasing in numbers and using different food resources. At sites dating to this time period, archaeologists have found large numbers of milling stones, metates and manos that suggest an increase in the population and change in food sources. During this time period, the early inhabitants lived fairly permanently year round along the coast. They intensively hunted small and large mammals, sea mammals and birds, and they fished the local kelp-beds and collected shellfish, sage, buckwheat, and grass seeds from the surrounding hills (Drover et al. 1983).

By 3000 B.C., people relied on the ocean resources and on the acorn for a staple food source. In order to eat the acorns, the native people learned to leach the acid from the nut by pounding the nuts and repeatedly washing the meal. The meal then could be stored in baskets and consumed many months later. Stone mortars and pestles became the common tool. Pestles made from oblong cobbles were held vertically to break and grind the nuts in the bowl-shaped mortar. Even though acorn processing involved more work than the hard seeds such as the sages, the native people quickly recognized that acorns were available in large quantities throughout the coastal hills and could be easily stored.

By A.D. 500, the early inhabitants had improved their hunting and fishing tools to include bows and arrows and "J" shaped fishhooks. When the Spanish arrived in the area, they also noted the people used pottery and had smoking pipes. During this period, communities continued to grow, and they developed trade networks with other groups as far away as the Mojave Desert and the Great Basin.

The late prehistoric period ended abruptly when Spanish colonists began establishing their missions along the California coast. Mission San Juan Capistrano was one of the earliest missions that affected the population in the Laguna Hills area. Disease and forced mission labor greatly reduced native populations and destroyed most traditional cultural lifeways.

Native American Indian Communities from Spanish Accounts

Based upon Spanish accounts and later studies, the Takic speaking Gabrielino and Juaneño lived in the Laguna Hills area. These names were derived from the Spanish missions where they were affiliated. These people occupied the area from the Pacific Coast to the Santa Ana mountains and from Topanga Canyon in the north to Aliso Creek in the south (Kroeber 1976). These two closely related peoples' ethnic boundary was possibly at Aliso Creek, which drains the western sector of the City of Laguna Hills.

Both the Gabrielino and the Juaneño were intensive hunter-gatherers who made use of both inland and coastal resources. Detailed reconstructions of Gabrielino lifeways have been presented by Kroeber (1976), Johnson (1962) and Bean and Smith (1978). Bean and Shippek (1978) have discussed Juaneño lifestyles, placing them within the Luiseño linguistic group of Takic speakers, based upon ethnological and linguistic evidence.

Both peoples lived in either permanent or semi-permanent villages at two principal locations: coastal estuaries or along major inland watercourses. Villages were exogamous; after marriage, the wife resided with her husband's kin group. The Juaneño village was the focus of family life, with individual extended families being linked together patrilineally. Kin groups were affiliated into several village clans "who owned an area in common and who were politically and economically autonomous from neighboring groups" (Bean and Shippek 1978 page 555). A village headman, who inherited his position usually from his father, directed village activities. He received assistance in religious or medical matters from a shaman, and was guided in other activities such as hunting and fishing by individual specialists.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The Gabrielino and Juaneño were hunter-gatherers, relying on the natural bounty of coastal Southern California. Seasonally, when preferred foods ripened, temporary camps were established to access resources such as acorns, berries, or fruits. Periodically, both the Juaneño and Gabrielino camped near the seashore, where they gathered shellfish and hunted waterfowl.

For a detailed study of the Juaneño and Gabrielinos cosmology and rituals, *Father Boscana's Chinigchinix* is recommended. He wrote this account while residing at both San Juan Capistrano (1814-1826) and San Luis Rey (1811-1814) missions.

Descendants of native American peoples live and work in the Laguna Hills vicinity. The Juaneño Band of Mission Indians, Capistrano Indian Council of San Juan Capistrano, actively promotes the understanding of regional ethnic traditions.

Historic Background

Gaspar de Portola's 1769 expedition is the first recorded contact in Orange County between native American and Spanish societies. In 1776, Father Serra, charged with establishing missions in Alta California, founded the seventh of the California Franciscan missions at San Juan Capistrano. The Franciscans' goals were both political and religious. These goals involved bringing Indian people under their physical influence, teaching them the ways of Christianity, and showing them how to become self-sufficient according to European standards (Cook and Marino 1988; Hallan 1975:12; Polzer 1986).

Before the Spanish arrived, a Juaneño ranchería or hamlet, Yuguillo (Niguel), existed somewhere in the study area vicinity, according to Mission baptismal records. The ranchería was abandoned soon after Mission San Juan Capistrano's establishment. During the Mission era (1776-1821), the padres' cattle herds roamed the hills around Aliso Creek. The Juaneño ranchería's name, Rancho Yuguillo (Niguel), was retained for the Mission's pasture. Spanish estancias were soon established in Aliso or Laguna Canyon, where fresh water was most abundant.

Mexican independence did little to alter the Laguna Hills pastoral economy. Although the land was secularized, it remained cattle pasture. In 1842, Governor Alvarez granted the land, as Rancho Niguel, to Juan ("El Rico") Avila and his sister, Conception Avila de Sanchez. The Rancho occupied the area principally east of Laguna Canyon and west of El Camino Real, and south to the coast. Ranching continued without attendant development, and Avila probably resided only briefly on the property, as he is a San Juan Capistrano resident on the 1850 tax rolls (Hallan 1975:34). The 1869 U.S. Surveyor General's Plan Map shows his adobe on Aliso Creek, just west of the current City boundary. When California became United States' territory, Avila sought to confirm his ownership. It appears that between 1850 and 1860, Avila sold some of his property, as his real estate values decline during this period (Mason in Desautels and McKenna 1986:31).

Domingo Yorba purchased Avila land west of Aliso Creek, while by 1866 Jonathan E. Bacon had purchased land just east of the creek. The remaining portion of Rancho Niguel was soon acquired by Cyrus B. (or Charles) Rawson in 1868 (ARI 1973:13).

Thus, by 1873, when the Rancho Niguel grant was confirmed, it was owned principally by C. B. Rawson, who raised cattle and sheep. An inholding of some 1,600 acres was Jonathan Bacon's property. In 1895, a larger holding began being developed. Lewis F. Moulton began consolidating the Rawson Ranch with the Bacon lands north of San Juan Capistrano. His Moulton Ranch grew from 13,000 to 22,000 acres (Cramer et al 1988:165).

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In 1901, Moulton took on another investor, Jean Pierre Daguerre, who contributed \$30,000 and a flock of sheep, becoming a one-third owner. The Ranch was a successful operation despite the depression, and continued intact until Lewis Moulton's death in 1938, when it was divided among the Moulton and Daguerre families. Today, part of Laguna Hills is named Nellie Gail Ranch in honor of Mrs. Lewis Moulton (Nellie Gail Moulton). The Laguna Hills ranch home occupied by the Moultons was demolished in 1976 (Scientific Resources Surveys 1977:11).

Archival Research

A records search and report review was conducted at the Archaeological Information Center located at the University of California, Los Angeles (UCLA), on December 4 and December 14, 1992 (see below listing). The Archaeological Information Center is the State Office of Historic Preservation recognized regional archive for cultural resources. The UCLA records and reports indicated that most portions of the City of Laguna Hills have been surveyed for cultural resources (Desautels 1977, Whitney 1977, Desautels and Zelenka 1979, Allen 1979, Whitney-Desautels and McKenna 1986). The sphere of influence, however, has only had minor review during road widening activities (Padon 1986, Padon 1987, Scientific Resources Surveys 1976).

The Information Center archives identify nine sites within the boundary of the City of Laguna Hills and three sites within the sphere of influence. Associated documents reveal that five of the nine sites within the City have been subject to data recovery programs, and subsequently destroyed. Within the sphere of influence, no testing or data recovery records for the three known sites were present. The known sites represent primarily sparse lithics scatters containing chipped and ground stone tools. A midden was reported at only one site. The site archival records suggest that the Laguna Hills area was primarily a resource area where temporary plant collecting occurred and camps were established on a seasonal basis. No field checks were undertaken to determine whether identified resources still remain.

Historic maps were reviewed at the Bruman Map Library, Department of Geography, UCLA, and also at the Archaeological Information Center. Pertinent historic maps such as *Corona* (1902) USGS 15', the *San Juan Capistrano* (1902;1949), the *San Juan Capistrano* Corps of Engineers (1941), and *Santiago Peak* Corps of Engineers (1943) 7.5' were reviewed to identify any structures within the project boundaries that could have potential historical significance. Additionally, copies of the U.S. Surveyor General's 1869 and 1873 were reviewed, as was Rowan's 1899 County of Los Angeles Map. The *National Register of Historic Places*, *California Historic Landmarks*, and *California Points of Historical Interest* listings and *California Historic Resources Inventory* were reviewed. No listed resources were present within the City or its sphere of influence.

Paleontologic Sensitivity

The study area is underlain by sedimentary formations that range in age from the Miocene Epoch to the Recent. The following geologic formations are present in ascending order: Sespe Formation, Vaqueros Formation, the Monterey Formation, the Capistrano Formation, the Niguel Formation, Non-Marine Terrace deposits and Young Alluvium. The location of these formations is illustrated in the Geology Seismicity Section (see Figure VI-3). Twenty-eight paleontologic localities are currently recorded within the City of Laguna Hills and its sphere of influence. An additional 63 fossil localities are noted within a one and one-half mile radius of the study area.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

The paleontologic sensitivity of a formation is a measure of the likelihood of fossil materials being present. Paleontologists have developed a classification system to define the paleontologic potential or sensitivity of specific rock units. The data used to define these classifications are based on 1) a review of existing paleontologic information both within the study site and the surrounding area, 2) discussion with paleontology professionals, and 3) field experience in Southern California. The classification system is divided into five ratings. These ratings reflect the potential for fossil discovery during site development.

Table IV-T-1
Paleontologic Sensitivity Classifications

Classification	Description
No Sensitivity	Rocks of a crystalline or highly metamorphosed origin where fossil remains are not expected to be preserved.
Low Sensitivity	Rocks that are too young geologically to contain significant fossils in situ, are altered, or have a poor record of fossil discovery.
Moderate Sensitivity	Rocks where fossils would likely be exposed during earthmoving activities.
High Sensitivity	Rocks where fossils would likely be exposed by earthmoving activities, are presently recorded, or have a well established history of producing significant fossils.
Indeterminate Sensitivity	Formations where poor rock exposes or a lack of systematic study precludes a more specific sensitivity rating.

Source: LSA Associates, Inc., 1993.

Based upon the formations present within the study area and as described previously, the City of Laguna Hills and its sphere of influence contains rocks of high, locally very high, moderate, low and no paleontologic sensitivity. Table IV-T-2 illustrates the paleontologic sensitivity of specific formations within the study area.

Table IV-T-2
Paleontologic Sensitivity within Study Area

Formation	Sensitivity
Sespe Formation	Low
Vaqueros Formation	Moderate to Locally High
Capistrano Formation	High
Niguel Formation	High
Non-Marine Terrace Deposits	High
Recent Alluvium, Slopewash, Artificial Fill	Low to No Sensitivity

Source: LSA Associates, Inc., 1993.

Refer to Figure VI-3 in discussion of seismicity and geology for illustration of the formations within the study area. A brief discussion of these formations and their paleontologic sensitivities follows.

Sespe Formation

The Sespe Formation is composed of rocks deposited on a broad river floodplain and delta during the late Eocene to early Miocene Epoch. Fossil turtle remains, as well as rodents, rabbits, and oreodonts (an extinct grazing animals about the size of a wild boar with no living descendants), have been recovered from the Sespe Formation in the Santa Ana Mountains north of the City of Laguna Hills. No recorded localities currently are known to exist in the Sespe Formation within the City of Laguna Hills and its sphere of influence.

The Sespe Formation is rated a low paleontologic sensitivity with the City of Laguna Hills and its sphere of influence because the unit in the surrounding area has not proven to be abundantly fossiliferous. The area where the Sespe has yielded scientifically significant terrestrial vertebrate faunas lies north of the City. However, because of the relative scarcity of fossil remains collected in this area, any fossil material recovered would be of importance scientifically as a record of the animals that existed in this part of Orange County during this time frame.

Vaqueros Formation

The Vaqueros Formation is composed of sediments that were deposited in a warm shallow sea and contains fossil bivalves, gastropods, barnacles, serpulid worms, trace fossils (the tracks, trails, and burrows of animals), echinoids and foraminifera (single-celled animal members of the marine plankton). In the Vaqueros Formation in the Santa Ana Mountains, the remains of a fossil primitive camel-like animal, a fossil three-toed horse Miohippus, whale, shark turtle, a primitive pig like animal, and other perisodactyls and artiodactyls have been collected.

The Vaqueros Formation is rated as having a moderate to locally high paleontologic sensitivity in the study area. This formation has an excellent record of producing important terrestrial vertebrate remains and some marine mammal remains in certain horizons. These fossils are important to understanding the evolution of those groups.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Monterey Formation

The Monterey Formation is highly fossiliferous, and may contain the remains of birds, plants, seaweed, bony fish, sharks, the burrows, tracks and trails of animals, as well as foraminifera and calcareous nannoplankton (animal and plant members of the marine plankton). Large numbers of scientifically significant marine mammals have been noted in the Monterey Formation in the Laguna Hills area. Numerous Los Angeles County Museum of Natural History Museum (LACM), Natural History Foundation of Orange County and California Division of Mines and Geology fossil localities are recorded within the Monterey Formation within the study area. Much of our present knowledge on the evolution of marine mammals, such as whales, dolphins, pinnipeds and sirenians, is based on specimens collected from the Monterey Formation.

The Monterey Formation is rated high with regard to paleontologic sensitivity because of the large numbers of vertebrates, invertebrates and plant material recovered from this unit. The interpretation and documentation of the evolutionary history of marine mammals, especially whales, dolphins, seals, and sea lions, has benefited from the specimens recovered from the Monterey Formation in Orange County and the study area.

Capistrano Formation

Abundant fossils may be present in the Capistrano Formation. The Oso Member of the unit can contain concretions that have fossil vertebrates and leaves in their cores. Both terrestrial and marine vertebrates have been found in great abundance in the Capistrano Formation. The remains of whales, dolphins, seals, sea lions, bony fish, sharks, sea cows, sea-going birds, and numerous invertebrates, as well as terrestrial animals such as camels and horses, have also been recovered from horizons within this formation. The upper part of the Capistrano Formation is typically a loosely consolidated siltstone or mudstone, and contains cetaceans and other marine mammals fossils as well as invertebrates and marine plankton. The Capistrano Formation within the study area contains 19 localities.

The Capistrano Formation is also rated as having high paleontologic sensitivity because of the abundant vertebrate and invertebrate faunas and plant materials recovered from this unit. The Oso Sand Member and redeposited beds in the Capistrano Formation are known to be particularly prolific fossil producers.

Niguel Formation

The Niguel Formation may contain numerous well preserved mollusks, as well as arthropods, fossilized burrows of bottom dwelling animals, and marine plankton. Some of the fossil shells within this formation may be remarkably well preserved, even to retaining the bright original colors and patterns. Abundant marine vertebrate remains can be found throughout this formation.

The Niguel Formation is rated as having high paleontologic sensitivity because this unit contains numerous sites of fossil marine invertebrates and vertebrates. Channels incised across the sea bottom during the Pliocene Epoch are the most common site of fossil materials within this formation.

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Non-Marine Terrace Deposits

Within the study area there are areas of stream and river deposits laid down during the Rancholabrean Land Mammal Age (Late Pleistocene). These deposits are composed of sands, silts, gravels, and cobbles. A significant fossil site located within the study area and known as the Costeau Pit includes several thousand fossil cranial and skeletal elements of terrestrial "Ice Age" animals. This site is located and preserved "in situ" beneath Costeau Park at the corner of Alicia Parkway and Costeau Street. The remains of bison, dire wolves, sabre tooth cats, mountain lions, voles, llamas, rabbits, birds, gophers, rats, antelope, deer, mammoths, turtles, toads, frogs, snakes, insectivores, sloths, extinct horse and camel, and muskrat have been recovered from this site. These fossils have been extensively studied by scientists at the Los Angeles County Museum and represent animals from all levels of the food chain. In addition to the Costeau Pit, other areas within the study area have yielded the remains of fossil terrestrial animals.

The non-marine terrace deposits are rated as having high paleontologic sensitivity. The Costeau Pit, noted previously, is the single most well known non-marine terrace deposit fossil locality in Orange County. Additional fossil sites are also found in these deposits.

Recent Alluvium, Slopewash, Artificial Fill

Sands, silts, and gravels deposited by rivers, streams and sheet wash during the past 10,000 years are considered to be too young geologically to contain scientifically significant fossils. On occasion, fossils will erode from older strata and wash into and become part of these stream deposits. Periodically, scientists collect these materials for use as educational materials. However, the lack of exact origin makes these fossils considerably less significant for research. Any fossil materials recovered from artificial fill also would have less importance scientifically because the geologic origins of the materials are unknown.

Alluvium and slopewash sediments are considered to be too young geologically to contain significant fossils in situ and, therefore, these deposits are rated as having low to no paleontologic sensitivity. However, fossils have been known to erode from the older more fossiliferous strata and wash into, and become part of, these recent stream deposits. Some "float" fossils have been collected for scientific and educational purposes, although the lack of contextual stratigraphic data makes these fossils relatively less important scientifically. Any fossil material recovered from artificial fill also would have less scientific importance because the geologic origin and contextual stratigraphy would not be known.

PROJECT IMPACTS

The impacts of the proposed General Plan on historic resources are discussed in the Historic Resources Section of the Environmental Resources portion of the General Plan. It is not anticipated that new development related to the proposed General Plan would significantly impact any historic structures or archaeological sites due to the overall lack of sites and the disturbed or developed condition of any remaining sites within the study area.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

MITIGATION MEASURES

- (T.1) The City of Laguna Hills shall require the following condition of approval on all new development projects, including intensification of existing development:

"If cultural resources are discovered during project construction, all work in the area of the find shall cease, and a qualified archaeologist or paleontologist as approved by the City of Laguna Hills shall be retained by the project sponsor to investigate the find, and to make recommendations on its disposition. If human remains are encountered during construction, all work shall cease and the Orange County Coroner's Office shall be contacted pursuant to procedures set forth in Section 7050.5 of the Health and Safety Code."

MITIGATION MONITORING

The City Building Official shall monitor the construction of all development and redevelopment projects. Where archeological or paleontological resources are discovered, all approvals shall be set aside subject to the recommendations and disposition of a qualified archeologist, paleontologist or, in the case of human remains, the County Coroner.

U. GEOLOGY AND SEISMICITY

EXISTING SETTING

Regional Geology

The City of Laguna Hills and its sphere of influence lie in rolling hills at the southeasternmost extremity of the Los Angeles Structural Basin. During the middle to late Eocene Epoch, the area was a broad alluvial floodplain and delta; during the Oligocene to early Miocene Epochs, the General Plan study area had subsided and was the site of a warm, shallow sea. During the middle to late Miocene Epoch, the General Plan study area was a deep water marine basin. Rocks deposited during this time were folded into a broad, northtrending syncline. During the Pliocene Epoch, the tectonic uplift of the area resulted in a shallowing of the sea. During coastal uplift, submarine channels were incised across the shallow sea floor and filled with sands, cobbles and fossils. The majority of this rock sequence (the Niguel Formation) laid down during Pliocene times appears to represent a gradual emergence of the coast from the sea, almost two million years ago.

Capping the shallow water deposit, the Niguel Formation is a sequence of marine and non-marine terrace units. The marine terrace deposits were laid down on wave cut terraces; the non-marine sedimentary units were deposited by the streams and rivers that once existed in this area.

Local Geology

Tertiary marine and non-marine rocks, capped by recent surficial units, underlie the General Plan study area. It is on these bedrock areas that the major geologic forces of uplift, erosion and deposition have been acting for million of years. These forces result in the distribution of distinctive land forms. The following bedrock formations, from oldest to the youngest, occur within the General Plan study area:

- the Sespe Formation;
- the Vaqueros Formation;
- the Monterey Formation;
- the Capistrano Formation;
- the Niguel Formation;
- non-marine terrace deposits; and
- recent alluvium, slopewash and artificial fill.

These geologic units are described in more detail below. Figure IV-U-1 provides a generalized mapping of these geologic units and where they can be expected to occur within the General Plan study area.

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Sespe Formation

The Sespe Formation is expressed as low rounded hills with occasional resistant sandstones or conglomeratic sandstones that commonly form steep slopes. Brush and cactus with interspersed grass areas form the vegetative cover. The sediments are non-marine, red to pale orange clay and silty sandstones with beds of conglomeratic sandstone and mudstone that interfinger with the overlying Vaqueros Formation. The unit is moderately to well indurated and poorly bedded. The slopes have a moderately high stability; porosity is moderate to high with permeability moderate to high with local areas of low permeability. Expansivity is low in freshly sheared rock, but the weathered and sheared portions tend to be highly expansive; the mudstones are moderately expansive. Slopewash is commonly thick with accumulations of highly plastic reddish sandy clay on lower slopes and in canyon bottoms.

Vaqueros Formation

The Vaqueros Formation is a series of yellow to green sandstones with siltstone and shale interbeds. The sandstone is well indurated and massive to thick. Slope stability is generally good except in the shaly or silty horizons. Expansivity is moderate to high in the weathered zone of shaly and silty horizons; permeability is moderate to impermeable, and porosity is moderate to low. The slopewash is generally poorly developed except on silty or shaly horizons where it is commonly expansive. Topographically the Vaqueros Formation is expressed as rounded hills with relatively steep antidip slopes.

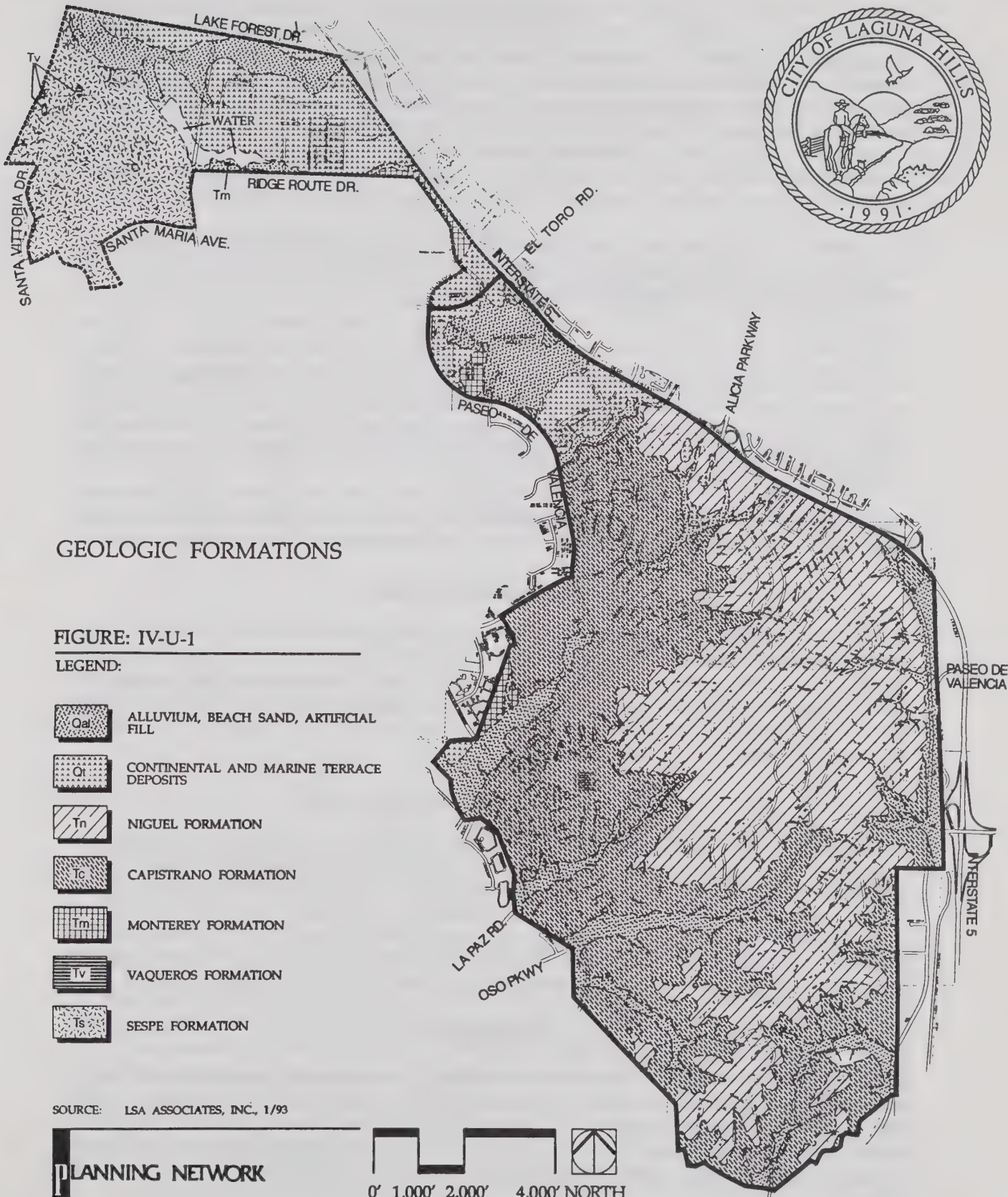
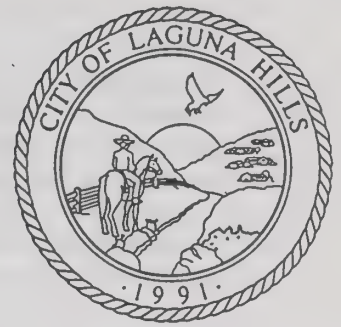
Monterey Formation

The Monterey Formation is a deep water marine unit consisting of shales, siltstones, minor amounts of sandstones, and a basal limestone deposited in late middle to late Miocene time. The unit commonly is thinly bedded and contorted. The Monterey Formation is around 700 feet thick, and is tectonically deformed into a broadly synclinal shape. Within this syncline is a series of folds generally extending northward.

This geologic unit is moderately well indurated, with very well indurated limestone and sandstone beds. Slopewash develops thick accumulations of highly plastic clays on Monterey shales and siltstones that may reach thicknesses of 25 feet. The Monterey Formation is very highly expansive in the clay units; the siltstones and shale are highly expansive. The siltstone and shale have a low permeability, high porosity, and erode easily when weathered. Topographically, the Monterey Formation is expressed as rounded gently rolling hills with the more resistant beds forming small cliffs near stream courses.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



SOURCE: LSA ASSOCIATES, INC., 1/93

March 31, 1994

IV-U-3

DRAFT MASTER EIR

Capistrano Formation

The Capistrano Formation is a deep water geologic unit deposited in a marine basin during the late Miocene to early Pliocene Epochs. The unit consists of yellow gray to light brownish gray siltstone interbedded with white, fine grained sandstone. The sandstone beds often represent influxes of sand brought down into the basin by undersea "avalanches" from shallower water areas. The Capistrano Formation is poorly bedded. The basal contact with the underlying Monterey Formation is gradational, and commonly marked with thin phosphatic pebble horizons. This geologic unit occupies the central portion of the broad Capistrano syncline, and can range up to 2,100 feet in thickness.

The expansivity of this rock unit is high to moderate. Porosity is generally high and permeability is generally low. On slopes of high to moderate steepness, the Capistrano Formation is subject to creep, mudflow and landslides under heavy moisture conditions.

Niguel Formation

The Niguel Formation is a marine shallow water unit with incised undersea channels deposited during the Pliocene Epoch. The sediments range from white to light gray to grayish yellow, fine grained to coarse grained sandstone with interbedded yellow brown to pale reddish brown conglomerates and breccia. This rock sequence documents the gradual emergence of the coastline. The thickness of the Niguel is approximately 300 feet.

Porosity is moderately high in the Niguel Formation, as is permeability. Expansivity is low, except for clayey silt interbeds. Erodability is high except in siltstone beds, which are moderately low.

Non-Marine Terrace Deposits

Overlaying the Niguel Formation are the non-marine terrace deposits including the sands, silts, gravels, and cobble beds of stream and river deposits. The dominant colors of the sediments are grayish red, reddish brown and moderate to yellowish brown. These units are flat lying to very gently dipping, and can range up to 20 feet in thickness. Topographic expression of these units is level to gently sloping. Permeability and porosity is low to high locally. Expansivity is mostly low in this geologic unit.

Recent Alluvium, Slopewash, Artificial Fill

Overlying the non-marine terrace deposits are stream deposits and slopewash of recent origin that occur only in present drainage channels and floodplains. These units are essentially flat lying, except for channel cut banks. The alluvial sediments are primarily light gray to yellowish gray, fine to coarse sand and gravel. The thickness is highly variable but has been noted to reach as much as 175 feet in San Juan Creek; 125 feet in Trabuco Creek; and 100 feet in Aliso Creek. Permeability in the alluvium is very high in major drainages to moderate in medium drainages. Expansivity is negligible to low. The slopewash deposits have a variable porosity and a moderate to high permeability.

Topography

The topography of the General Plan study area is typical of the stream-cut marine terraces of coastal and inland orientation that characterize the northern and southern exposures of the San Joaquin Hills range. The San Joaquin Hills range is typical of the northwest trending mountain ranges that comprise the Peninsular Range Province of Southern California. Streams have cut the hills, forming arroyos, gullies, and steep canyons. Intermittent rains have created eroded hillsides and formed broad valleys.

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Elevations within the General Plan study area range from approximately 300 feet in the northern portion of the City to over 700 feet on the highest ridge lines in the southern portion of the City.

The orientation of the drainage pattern is to the south and southwest, resulting in generally east-west running tributary canyons. However, numerous deviations to this pattern are present. There are several main canyons draining this region: Aliso Creek, Oso Creek, Sulphur Creek and Veeh drainage area. Aliso Canyon is the largest of these, and forms a broad valley bisecting the northwest portion of the General Plan study area.

Topsoil

Topsoils ranging from two to four feet in thickness generally cover the General Plan study area. Consisting of dark brown to silty clays and sandy clays with lesser amount of clayey silt, these soils vary from dry and desiccated to very moist, depending upon the time of year. They are porous, soft to stiff in consistency and smooth. Because these soils have been periodically cultivated, local accumulations or swale infillings may have occurred. Some of the north to west facing slopes support a thicker accumulation of topsoil, which is indicative of creep and local slumping.

A residual topsoil mantle, consisting primarily of cobbles and small boulders with a clayey matrix, occur over terrace conglomerates in some portions of the General Plan study area. Thick topsoil accumulations in excess of four feet occur locally, along the back of landslides as graven infillings, and as swale infillings and creep zones. The topsoils are generally low in density, and most will be removed to be reused as compacted fill on development sites.

Soil Survey

The U.S. Soil Conservation Service (SCS) divides areas for soil surveys into five general kinds of landscapes for interpretive purposes:¹ basins of Coastal Plains, Coastal Terraces, Coastal Foothills, Mountain Slopes and Alluvial Fans. The General Plan study area has three of these categories: Coastal Terraces, Coastal Foothills, and Basins of Coastal Plains.

Coastal Terraces

These soils are moderately well drained, sandy loams that have a well defined subsoil developed from sandy sediments. Elevation ranges from 50 to 1,500 feet. The average annual rainfall is 12 to 20 inches, and the average annual air temperature is about 62 degrees Fahrenheit. The frost free season is 270 to 350 days. This association is used mainly for pasture, range, barley and urban development.

Coastal Foothills

Elevation ranges from 100 to 4,000 feet. The average annual rainfall is 12 to 25 inches, and the average annual air temperature is 59 to 62 degrees Fahrenheit. The frost free season is 200 to 350 days. These associations are used mainly for pasture and range. The better sites are used for barley or irrigated citrus. Some areas are used for urban development.

¹ United States Department of Agricultural Soil Conservation Services and Forest Service, *Orange County and Western Part of Riverside County Soil Survey*, 1987.

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Basins of Coastal Plains

These soils are somewhat excessively drained to poorly drained loamy sands to clays that formed mostly in mixed alluvium, dominantly from sedimentary rock sources. Elevation ranges from near sea level to 1,500 feet. The average annual rainfall is 12 to 18 inches, and the average annual air temperature is 59 to 62 degrees Fahrenheit. The frost free season is 270 to 355 days. These associations are used extensively for truck crops, specialty crops, and field crops. They are also used extensively for urban purposes.

The SCS has mapped the soils within the City of Laguna Hills and its sphere of influence to identify the soils types found in the area, their location, and potential uses. General soil types are soil series that are distinctive. It is named after the town or area where it was originally described and identified, such as the Capistrano and Yorba Series.

Soil identification is helpful in:

- obtaining an overview of the soils in an area;
- identifying tracts of land suitable for particular purposes; and
- identifying general areas of potential constraints.

Soil identification is a useful tool as a guide for managing watershed or wildlife areas, or in planning and engineering works, recreational facilities and community development.

Sixteen soil series are found within the General Plan study area. These are described below.

- ***Alo Series*** The Alo series consists of well drained soils that formed from weathering calcareous sandstones and limestones in the foothills. These soils are slowly permeable and are used for range, irrigated citrus and urban development. In a typical profile, the surface layer is dark grayish brown clay with soft lime masses occurring below a depth of 15 inches. The vegetation is annual grasses, mustard, and other forbs.
- ***Alo Variant*** This unit consists of well drained soils on the uplands. These soils formed from weathered calcareous shales and sandstones. In a typical profile, the upper 26 inches is reddish brown light clay underlain by 14 inches of reddish brown calcareous clay with lime. Below these layers is weathered and fractured soft sandstone and shale to a depth of 66 inches or more, with some included lime in the upper 8 inches. The vegetation is annual grasses, mustard, and other forbs. The soil grades from slightly acid in the upper part to moderately alkaline and then to neutral. It is slowly permeable. The Alo Variant is used for citrus, dryland barley, dryland pasture and urban development.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

- **Balcom Series** The Balcom series consists of well drained soils that developed from soft fine grained sandstone, calcareous soft shale, and marl on uplands. In a typical profile, the upper 30 inches is grayish brown light clay loam to light gray calcareous fine sandy loam. The underlying material is weathered fine grained sandstone and some calcareous shales coated with lime. The soil is moderately alkaline and moderately slowly permeable. This soil series crushes easily. The vegetation is annual grasses and forbs, mostly mustard, and some brush on the more eroded slopes. Balcom soils are used for dryland barley, dryland pasture, range and urban development.
- **Bosanko Series** The Bosanko series consists of well drained soils that formed on foothills from weathered calcareous shale, sandstone, or weakly consolidated sediments. Typically, a dark gray clay forms the upper layer with a calcareous mixed dark gray clay and pale yellow weathered shale below. The soil is mildly alkaline above to moderately alkaline below, and is slowly permeable. Bosanko soils are used for dryland small grain, pasture, range, citrus and urban development.
- **Botella Series** The Botella series consists of well drained soils on alluvial fans. A typical profile is a grayish brown clay loam surface layer with a gray silty clay loam subsoil. The soil is moderately permeable. The vegetation is mainly annual grasses and forbs, and some oak trees and brush. Botella soils are used for irrigated citrus, dryland small grain, pasture and range.
- **Calleguas Series** The Calleguas soils consist of well drained soils on uplands that formed from weathered lime coated shale or sandstone. The vegetation is annual grasses or forbs, mostly mustard and brush. A typical soil profile is pale brown clay loam and shaly clay loam underlain by soft fractured shale with lime coatings. The soil is moderately permeable. Calleguas soils are used for range, watershed, wildlife and urban development.
- **Capistrano Series** The Capistrano Series consists of well drained soils that form in sedimentary alluvium of the coastal mountains. The vegetation is mostly grasses with some oak trees in selected area. The Capistrano soil is moderately permeable, and typically is a dark grayish brown sandy loam with an underlying grayish brown sandy loam. The soil is moderately to rapidly permeable. Capistrano soils are used for citrus, barley, pasture, range, wildlife and recreation.
- **Corralitos Series** The Corralitos Series consists of somewhat excessively drained soils on fans in long narrow valleys. These soils form from mixed coarse textured alluvium. The vegetation is primarily annual grasses and forbs, with small trees and brush generally near stream channels. The typical soils profile is grayish brown loamy sand and loamy fine sand 9 inches thick. The lower material is stratified light brownish gray and light gray loamy coarse sand, sand, and loamy fine sand to a depth of 60 inches or more. The soil is medium acid throughout, and is rapidly permeable. Corralitos soils are used for citrus, irrigated row crops, pasture and range.

DRAFT MASTER EIR

- ***Cropley Series*** The Cropley series consists of well drained soils on fans and valley fill. These soils form from fine textured alluvium derived from sedimentary rocks. The vegetation is annual grasses and forbs. Typically a very dark gray clay forms the upper layer with a dark gray clay below to a depth of 60 inches or more. This soil is slowly permeable, and ranges from slightly alkaline to moderately alkaline. Cropley soils are used for dryland small grain, pasture, range, citrus, and urban development.
- ***Myford Series*** The Myford series consists of moderately well drained soils on marine terraces, which formed in sandy sediments. The typical surface layer is pale brown and pinkish gray sandy loam underlain by brown sandy clay and brown sandy clay loam. The vegetation is annual grasses and forbs and scattered low growing brush. The soil is very slowly permeable. Myford soils are used for citrus, pasture, range, barley and urban development.
- ***Pits*** Pits are open excavations from which soils and underlying materials, primarily sands and gravels, have been removed for construction purposes. Present land uses are construction material, idle land, or groundwater recharge if developed in a stream bed.
- ***Riverwash*** The Riverwash unit consists of sandy, gravelly, cobbly, stony, and bouldery deposits along stream channels that are subject to stream overflow. Areas in this unit support little or no vegetation. They are suited to wildlife and recreation but have no agricultural use. Riverwash can be a valuable source of gravel and sand for construction materials.
- ***Rock Outcrop - Cieneba Complex*** This mapping unit is in mountains or on foothills. It is 50 percent or more Rock Outcrop and boulders and 50 percent or less Cieneba soils. The soils are somewhat excessively drained and formed in material weathered from granitic or sandstone rock. The vegetation is sparse brush. If the soil is bare, runoff is rapid and the erosion hazard is high. Permeability is relatively rapid. Present land use is watershed, wildlife, and to a limited extent, range.
- ***San Emigdio Series*** The San Emigdio series consists of well drained soils developed on floodplains and alluvial fans and were formed in mixed alluvium. The vegetation is annual grasses and forbs. In a typical profile the surface layer is light brownish gray fine loam with underlying very pale brown, pale brown, light brownish gray, and light gray stratified fine sandy loam, sandy loam, very fine sandy loam and gravelly loamy coarse sand. The soil is moderately alkaline, calcareous and moderately rapidly permeable. The San Emigdio soils are used for citrus, row crops, field crops, and urban development.

DRAFT MASTER EIR

- **Sorrento Series** The Sorrento series consists of well drained soils on alluvial fans and flood plains. Alluvium derived from sedimentary rocks is the basis for these soils. The vegetation is annual grasses and forbs and some sycamore trees. Typically, the surface layer is grayish brown loam with grayish brown, light brownish gray, and pale brownish gray silty clay loam. It is moderately permeable, neutral in the upper six inches becoming moderately alkaline and calcareous below. Sorrento soils are used for irrigated crops, citrus and urban development.
- **Yorba Series** The Yorba series consists of well drained soils developed on terraces from gravelly sandy sediments. The vegetation is annual grasses and forbs and some sagebrush and cactus. The surface layer is pinkish gray and brown gravelly sandy loam underlain by a red subsoil, very gravelly sandy clay loam and sandy loam to a depth of 60 inches or more. The soil is slightly acid throughout, and is slowly permeable. Yorba soils are used for pasture, range, watershed, wildlife, and urban development.

Soil Capability

Soils within the General Plan study area have also been identified through the SCS land capability classifications by groupings relative to their potentials and limitations toward the cultivation of most kinds of field crops. Soils considered to be of prime agricultural value are: Class I, Class II, or Class III. The SCS has defined a total of eight separate soil classes, as follows.

- **Class I** soils have few limitations that restrict their use.
- **Class II** soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- **Class III** soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
- **Class IV** soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
- **Class V** soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife.
- **Class VI** soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife.
- **Class VII** soils have severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife.
- **Class VIII** soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife, water supply, or to aesthetic purposes.

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Soils series identified within the General Plan study area include: Class I, Class II, Class III, Class IV, Class VI Class VII. The Capability subclasses are soil groups within one class that are designated by a small letter such, as "s," "e," or "w" after the Class number. The letter "e" indicates that erosion is the main limitation unless close growing plant cover is maintained; the small letter "s" indicates use of the soil is limited because it is stony; and the "w" subclass indicates that water in or on the soil interferes with plant growth or cultivation. These three subclasses, e, s, and w, are the only subclasses present within the General Plan study area. Class I has no subclass because these soils have few limitations.

Based upon the above information, Table IV-U-1 presents the capability grouping and subclasses of the soils present within the General Plan study area.

Table IV-U-1
Soil Capability

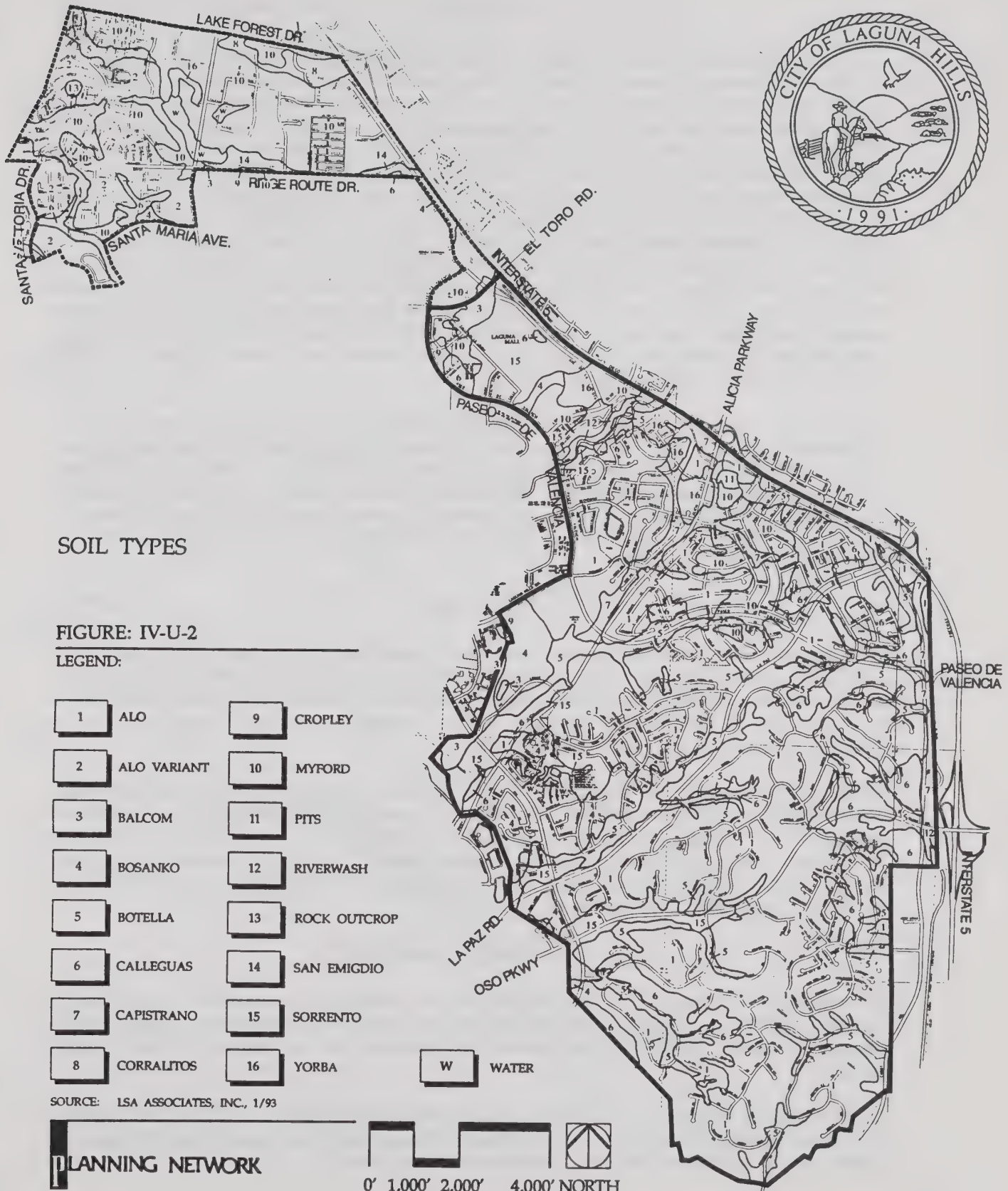
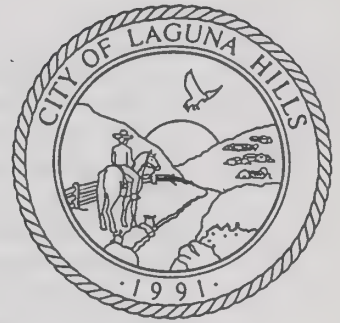
Soil Series	Capability
Alo	(IIIe, IVe, VIe)
Alo Variant	(VIe, IVe)
Balcom	(IIIe)
Bosanko	(IVe, VIe)
Botella	(IIe, IIIe)
Calleguas	(VIIe)
Capistrano	(IIIe)
Corralitos	(IIIs)
Cropley	(IIe)
Myford	(IIIe, IVe, VIIe)
Pits	(VIIIs)
Riverwash	(VIIIw)
Rock Outcrop- Cieneba Complex	(VIIa)
San Emigdio	(I)
Sorrento	(I, IIe)
Yorba	(VI, VIIs)

Source: LSA Associates, Inc., 1993

The soils distributions within the General Plan study area are presented in Figure IV-U-2.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

Seismicity

Southern California as a whole is subject to potential groundshaking in the event of an earthquake. To minimize damage to human occupancy structures, the State of California has adopted the Alquist-Priolo Special Studies Zone Act. Under this act, the State Geologist has mapped "Special Studies Zones" along the states's active and potentially active faults. Prior to approval of structures for human occupancy within a special study zone, a geologic study must be undertaken to determine the precise location and necessary setbacks from identified faults. No Alquist-Priolo Special Studies Zones have been set up within the City of Laguna Hills or its sphere of influence. No active faults are presently known within the City of Laguna Hills or its sphere of influence. The major regional faults likely to generate earthquakes of a magnitude 7 or higher are the San Andreas, the San Jacinto, the Elsinore-Whittier and the Newport-Inglewood Faults. The nearest major active fault is the Newport-Inglewood Fault Zone, which lies approximately three miles to the southwest of the General Plan study area. A level 7 magnitude earthquake on this fault system would likely result in minor damage to structures in the Zone 8 category (Laguna Hills Mall Expansion Draft EIR, 1993) that have been designed to be earthquake resistant. Figure IV-U-3 illustrates the regional seismicity and known faults within and/or near the General Plan study area.

The risk of damage due to ground rupture during an earthquake is minimal because of the absence of active faults in the City. However, the risk of structural damage (both above and underground) and loss of life as a result of groundshaking is considerable, due to the combination of proximate active faults and the developed character of the General Plan study area. Low density residential development and low intensity land uses are, however, less vulnerable to seismic hazards. The City is marked by relatively low intensity residential land use and is, therefore, at less risk than intensely developed "urban" communities.

Liquefaction

Liquefaction is another seismic hazard within the General Plan study area. The potential for liquefaction is a function of soil type and shallow groundwater. Soils that are poorly consolidated and combine with groundwater during an earthquake lose their shear strength and take on the properties of a heavy liquid. Liquefaction can result in the loss of foundation support, ground failure due to lateral spreading, and settlement of affected soils.

Orange County has reviewed the region to determine those areas where factors may lead to high susceptibility for liquefaction hazards. The City of Laguna Hills is not located in any of the areas designated by the County. There are several soils types that, in combination with shallow groundwater, can be prime candidates for liquefaction hazards. However, this is more appropriately determined on a case-by-case basis because the groundwater levels are not well known in detail over the City of Laguna Hills or its sphere of influence.

Slope Stability (Landslides)

Slope stability is another type of geologic hazard that can impact a community. Slope stability involves such issues as landslides and erosion, and is a hazard in hillside areas. Laguna Hill's topography includes several hills and valleys and, therefore, has the potential for slope stability problems.

Slope stability is dependent on the number of interrelated factors such as rock type and degree of porousness and slope characteristics. Additionally, climatic conditions, man-induced topographical alterations and earthquakes also trigger failure of unstable slopes.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Figure IV-U-3 Regional Seismicity



March 31, 1994

DRAFT MASTER EIR

Areas underlain by shale and siltstone are more prone to landslides. The Capistrano, Monterey and Topanga Formation areas are most prone to slow developing, slump type failures. Both the Capistrano and Monterey Formations are located within the General Plan study area.

PROJECT IMPACTS

The impacts of the proposed General Plan on geotechnical resources are discussed in the Geology and Seismicity Section of the Environmental Hazards portion of the General Plan. Although there are no "active" or "potentially active" faults within the study area, as a result of implementation of the proposed General Plan, an increased number of residents and employees could experience seismic impacts if a major earthquake occurred in the vicinity. In addition, because of the existing hillside topography within much of the study area, the potential for slope stability problems does exist, although impacts associated with slope failure should be minimal because of the lack of vacant hillside land left for development.

MITIGATION MEASURES

(U.1) The City of Laguna Hills shall require that all new structures comply with the latest Uniform Building Code seismic design standards, as well as supplemental design criteria necessary to ensure that:

- all uses needed for emergency response are designed to withstand sufficient "g" force to remain functional; and
- the guidelines of Table IV-U.2 of the Master EIR are met.

MITIGATION MONITORING

The City of Laguna Hills shall require new development or (when applicable) redevelopment to submit site-specific soils studies concurrent with submittal of grading and/or building permit applications to determine onsite soils and geologic conditions and to define the site-specific design criteria needed to avoid the unacceptable risks outlined in Table IV-U-2.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-U-2
Significant, Unacceptable Safety Risks

		SEVERITY OF CONSEQUENCE ¹				
		Negligible	Minor	Major	Severe	Disastrous
FREQUENCY OF OCCURRENCE ²	Frequent					
	Likely					
	Unlikely					
	Rare					
	Extraordinary					

 Unacceptable Safety Risk.

 Acceptable Safety Risk.

¹ SEVERITY OF CONSEQUENCE CLASSIFICATIONS

Negligible	No significant risk to the public, with no minor injuries and only minor property damage.
Minor	Small levels of public risk, with at most a few minor injuries and minor property damage.
Major	Major level of public risk with up to 10 severe injuries and significant property damage within a limited area or moderate property damage over a large area.
Severe	Severe public risk with up to 100 severe injuries or up to 10 fatalities, with significant property damage over a large area.
Disastrous	Disastrous public risk involving more than 100 severe injuries or up to 10 fatalities, with significant property damage over a large area.

² FREQUENCY OF OCCURRENCE

	<u>Average Frequency</u>	<u>Description</u>
Frequent	Greater than once a year.	An event which would occur once a year on the average.
Likely	Between once a year and once in 100 years.	An event which would probably happen once in an average person's lifetime or once during the useful life of a building.
Unlikely	Between once in 100 years and once in 10,000 years.	An event which is possible, but is not expected to happen during the useful life of a development project.
Rare	Between once in 10,000 years and once in 1 million years.	An event which occurred on a worldwide basis, but only a few times.
Extraordinary	Less than once in 1 million years.	An event which has never occurred, but which could occur.

Source: Laguna Hills General Plan, 1993.

March 31, 1994

DRAFT MASTER EIR

V. STORMWATER MANAGEMENT AND FLOODING

EXISTING SETTING

Flood Control

The regional flood control facilities located within the General Plan study area are the responsibility of the Orange County Flood Control District (OCFCD), which is empowered to construct and maintain flood control works to minimize loss of life and property caused by flooding, and for water conservation. The Environmental Management Agency (EMA) is responsible for implementing the Flood Control District's funded activities program, which includes the design, construction, operation and maintenance of regional flood control facilities. Local flood control facilities (those with less than 500 acres of contributing drainage area) are the responsibility of the City.

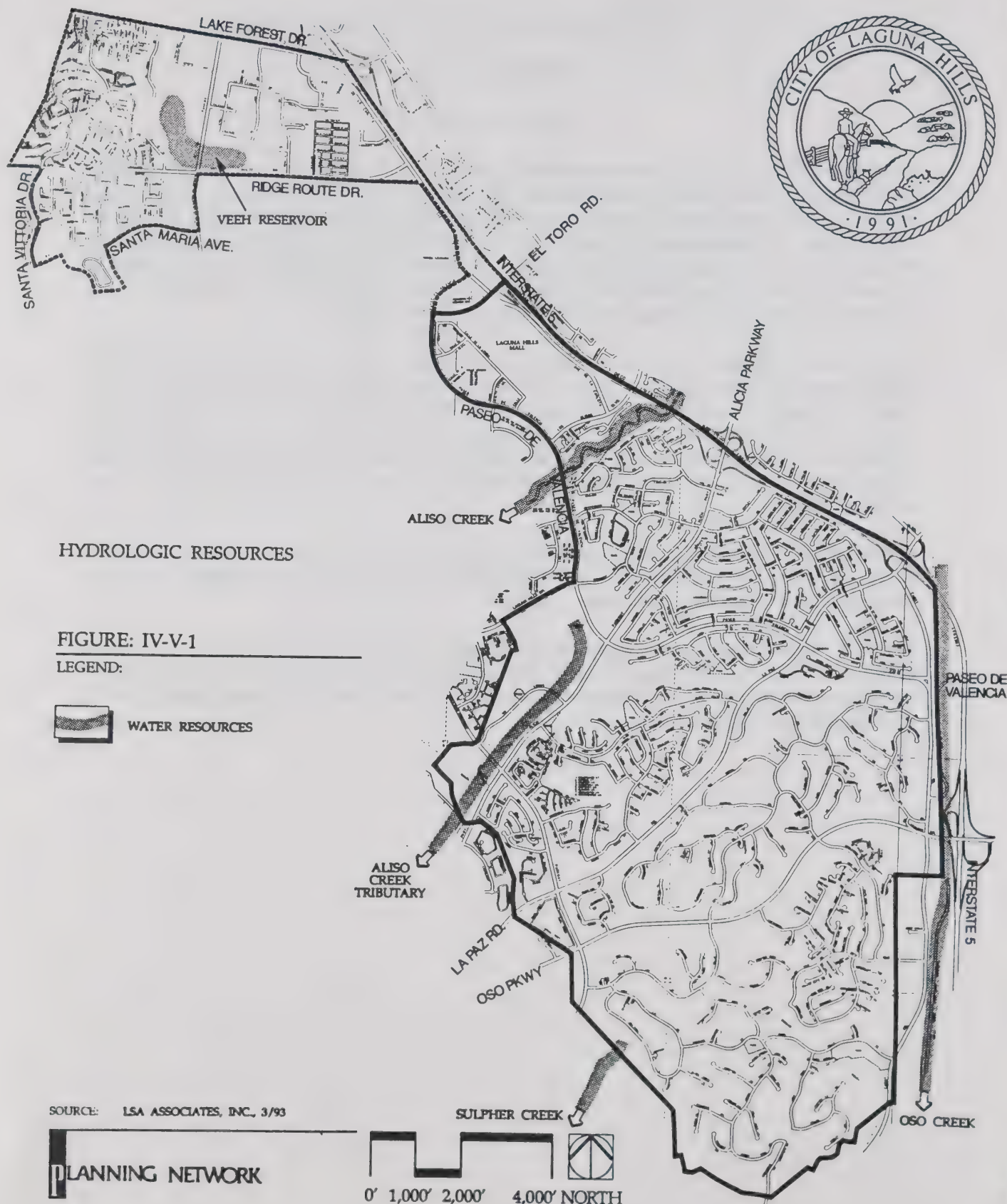
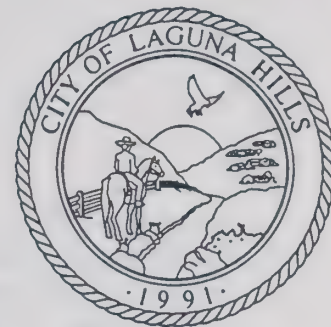
Major drainages serving the City include Aliso Creek, which provides major drainage from I-5 to the Pacific Ocean and flows parallel to Alicia Parkway, and Oso Creek, located at and just beyond the eastern boundary of the City (refer to Figure V-4 Hydrologic Soils Group in the Water Resources Section of the Master EIR). The sphere of influence drains to the north, into San Diego Creek. Figure IV-V-1 illustrates the major drainages within the General Plan study area. Flood control facilities within the City have been constructed consistent with the OCFCD's Master Plan of Drainage and Flood Control.

Because the City General Plan study area is essentially built out, very little open space remains to be developed, resurfaced, or otherwise converted into an impervious surface; therefore, no major increases in storm flows are anticipated.

The City will develop a seven year Capital Improvement Program in 1993, which will consider, among other projects, maintenance and improvements to local flood control facilities. Such projects would likely be funded by a combination of special assessment districts, a possible Master Plan of Drainage fee, and County funds.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

PROJECT IMPACTS

The impacts of the proposed General Plan on stormwater management and flooding are discussed in the Stormwater Management and Flooding Section of the Environmental Hazards portion of the General Plan. As noted in this document, most of the City is served by storm drain facilities that have been constructed within the last 15 - 20 years, and have been sized to accommodate build out of the study area. The population increases anticipated in the proposed General Plan will not adversely affect these facilities. In addition, any new development within the study area will have to comply with the policies of the National Flood Insurance Program. Because of this, no deficiencies in the City's drainage or flood control facilities are anticipated.

MITIGATION MEASURES

(V.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of the management of stormwater and flooding provided to existing development and as identified in box at right. Therefore, development projects within the City of Laguna Hills shall be required to:

Mitigation Standard

Adequate facilities to protect structures for human occupancy and major roadways from the 100-year flood.

- construct and/or pay for the new on-site capital improvements that are required to support the project;
- ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy;
- be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and
- ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.

MITIGATION MONITORING

Prior to approval of a development permit, the Development Services Department shall review the proposed project with the Orange County Flood Control Department to determine whether all needed facilities and services needed to support the project will be provided in a timely manner. In cases where new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.

DRAFT MASTER EIR

W. NOISE

EXISTING SETTING

Noise Definitions

Sound may be described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech interference, sleep interference, physiological responses and annoyance. Based on these known adverse effects of noise, the federal government and the State of California have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Noise Assessment Criteria

Several rating scales exist to analyze adverse effects of noise, including traffic generated noise, on the community. These scales include the equivalent noise level (L_{eq}), day-night average noise level (L_{dn}), and the community noise equivalent level (CNEL).

L_{eq} is a sound energy level averaged over a specified time period (usually one hour). L_{eq} represents (in a single numerical value) the amount of variable sound energy at a receptor over a given time interval. For example, a one hour L_{eq} noise level measurement would represent the average amount of energy contained in all of the noise that occurred in that one hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time varying effects of noise on sensitive receptors.

Unlike the L_{eq} metric, the L_{dn} and CNEL noise metrics are based on 24 hours of measurement. L_{dn} and CNEL also differ from L_{eq} because they apply a time weighted factor designed to emphasize noise events that occur during the evening and/or nighttime hours (when sleep disturbance is a concern). "Time weighted" refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive time periods. Noise occurring during the daytime period (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise during the evening time period (7:00 p.m. to 10:00 p.m.) is penalized by 5 dBA, while nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by 10 DBA. The 24 hours of measurement are then averaged on an energy (logarithmic) basis to obtain the CNEL value. The L_{dn} noise metric differs from the CNEL noise metric in that the duration of the daytime period is from 7:00 a.m. to 10:00 p.m., thus omitting the evening time period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. The highest instantaneous measurement during any period is referred to as L_{max} .

The State of California's Office of Noise Control has established standards and guidelines for acceptable community noise levels based on the CNEL rating scale. The purpose of these standards and guidelines, summarized in Figure IV-W-1, is to allow public agencies a framework in setting standards for human exposure to noise and preparing noise elements. The City of Laguna Hills has not yet adopted noise standards of its own. The City has the option to adopt standards and guidelines that are used by the County of Orange, or other standards that may better suit the needs and character of the City.

DRAFT MASTER EIR

The Noise Element of the County of Orange General Plan also establishes maximum noise level standards for different types of land uses within the County, based upon existing federal and State guidelines. For noise sensitive land uses, the County limits exterior noise levels to below 65 dBA CNEL and interior noise levels to below 45 dBA CNEL. Sensitive receptors are those land uses that require serenity or are otherwise adversely affected by noise events or conditions. In Laguna Hills, these land uses include, but are not limited, to schools, churches, and residential uses. Interior noise standards for commercial developments range from 45 dBA $L_{eq(h)}$ to 65 dBA $L_{eq(h)}$, depending on the interior use. There are no exterior noise standards for commercial developments.

To control intermittent noise and non-transportation related noise, communities have developed ordinances. The County of Orange Noise Ordinance is designed to protect adjacent land uses from non-transportation related noise sources, such as music, amplified sound from public address systems, mechanical equipment, and activities on private property. Non-transportation noise generated by the proposed project might include noise associated with mechanical equipment within a commercial center, parking lot activities such as car stereo music and car door slamming, landscaping equipment and outdoor activities on private property.

Acceptable Exterior Noise Exposures

Figure IV-W-1 illustrates the State of California, Office of Noise Control, Land Use Compatibility Matrix of community noise environments for various land use categories. As shown in this figure, a normally acceptable designation indicates that a specified land use achieves all noise reduction requirements with standard construction. By comparison, a conditionally acceptable designation implies that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use type is made, and the needed noise insulation features are incorporated by design. In general, sensitive land uses should not be exposed to noise levels indicated by normally unacceptable conditions, or clearly unacceptable conditions.

As shown in Figure IV-W-1, single family and multifamily residential uses, schools, libraries and churches have a normally acceptable community noise exposure range of 60 dBA CNEL to 70 dBA CNEL. Most communities use 60 dBA CNEL or 65 dBA CNEL as their exterior residential noise standard. Office buildings are normally acceptable up to 70 dBA CNEL. Industrial and manufacturing land uses, being less sensitive to noise, are normally acceptable where the exterior noise levels of 75 dBA CNEL or less.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Figure IV-W-1 Land Use Compatibility for Community Noise Environments

LAND USE CATEGORY	COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)					
	55	60	65	70	75	80
RESIDENTIAL/LODGING Single Family/Duplex						
MULTI-FAMILY						
MOBILE HOMES						
HOTELS/MOTELS						
PUBLIC INSTITUTION Schools/Hospitals Churches/Libraries						
AUDITORIUMS/CONCERT HALLS						
COMMERCIAL OFFICES						
RETAIL						
INDUSTRIAL MANUFACTURING						
WAREHOUSING						
RECREATIONAL/OPEN SPACE Parks/Playgrounds/Golf Course Riding Stables						
OUTDOOR SPECTATOR SPORT						
OUTDOOR MUSIC SHELLS/ AMPHITHEATERS						
LIVESTOCK/WILDLIFE PRESERVES						
CROP AGRICULTURE						

LEGEND



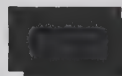
CLEARLY ACCEPTABLE
No special noise insulation required, assuming buildings of normal conventional construction.



NORMALLY UNACCEPTABLE
New construction should be discouraged. Noise navigation easements required for all new construction. If new construction does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.



NORMALLY ACCEPTABLE
Acoustical reports and noise easements required for all new residential construction. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.



CLEARLY UNACCEPTABLE
No new construction should be permitted.

March 31, 1994

DRAFT MASTER EIR**Acceptable Interior Noise Exposures**

The California Commission of Housing and Community Development adopted noise insulation standards for the State in 1974. On November 14, 1988, revisions to these standards (Title 24, Part 2, California Code of Regulations) were approved. The revised standards mandate that interior noise levels attributable to exterior sources not exceed 45 dBA CNEL in any habitable room.

The Commission further specified that an acoustical analysis shall be required for residential structures that are or will be located within the CNEL contour of 60 dBA or greater, where associated with an existing or proposed freeway, expressway, parkway, major street, thoroughfare, rail line, rapid transit line or industrial use. The analysis must show that the building will limit interior noise to a level of 45 dBA (CNEL).

On the national level, the Federal Highway Administration places residences in Activity Category B, which specifies a maximum exposure level of 67 dBA L_{eq} .

Existing Noise Sources

Due to the nature of the area surrounding the project site (City of Laguna Hills and its sphere of influence), the primary source of noise in the area is traffic related. The project site is bordered on the east by the San Diego Freeway (I-5) and the Atchison, Topeka & Santa Fe Railroad. Numerous major arterials run throughout the City and its sphere of influence. The project site is also subjected to noise from aircraft operations originating from U.S. Marine Corp Air Station El Toro (USMCAS El Toro), located approximately 1.5 miles to the north. The 60 dBA CNEL noise contour from this facility does not extend into any portion of the City of Laguna Hills; therefore, aircraft noise is not considered a significant noise impact here. However, the 70 dBA, 65 dBA and 60 dBA CNEL noise contours do extend into a portion of the City of Laguna Hills sphere of influence. Therefore, aircraft noise is considered a significant impact for the City of Laguna Hills' sphere of influence.

Existing Noise Environment

Existing noise measurements were collected at representative noise sensitive receptors within the City and the City's sphere of influence. These measurement sites were selected to determine the noise environment adjacent to roadways at representative land uses. These existing measured L_{eq} s are presented in Table IV-W-1.

The noise measurements were conducted using a Metrosonics db-3100 Metrologger Sound Level Meter (SLM) set for slow response on the A-weighted decibel (dBA) scale. To ensure accuracy, the Metrosonics was calibrated before and after each measurement using the Metrosonics cl-304 Calibrator. Measurements were ten minutes in duration.

Since the noise measurements were made as L_{eq} s, they are compared to the FHWA exterior noise standard of 67 dBA L_{eq} . This comparison is meant to be a point of reference only, and not as an absolute criterion of conformance to the FHWA standard. The reason for this is that the noise measurements are intended to give a "broad brush" impression of noise levels throughout the City, and are not intended to be a definitive study of any one area within the City of Laguna Hills.

Noise measurements were taken at eight noise receptor locations, as shown in Figure IV-W-2. The average noise level (L_{eq}) and the instantaneous maximum noise level (L_{max}) during the measurement period are given for the measurement locations in Table IV-W-2.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-W-1
Field Measurement Data Summary

Noise Receptor Site	Roadway	Land Use	Date	Time	Measured L_{eq}	Measurement Duration (Minutes)	Measured L_{max}
NR 1	I-5 Fwy/ Cabot Rd.	SF Residential	1/26/93	10:42	65.2 dBA	10	70.9 dBA
NR 2	Oso Parkway	SF Residential	1/26/93	11:25	60.0 dBA	10	75.6 dBA
NR 3	Moulton Pkwy.	SF & MF Residential	1/26/93	11:53	70.7 dBA	10	83.4 dBA
NR 4	La Paz Road	SF Residential	1/26/93	12:29	58.8 dBA	10	77.1 dBA
NR 5	Aliso Hills Dr.	SF Residential	1/26/93	13:00	60.5 dBA	10	78.3 dBA
NR 6	Paseo de Valencia	School	1/26/93	14:25	57.9 dBA	10	68.7 dBA
NR 7	I-5 Freeway	SF Residential	1/26/93	15:02	73.7 dBA	10	76.7 dBA
NR 8	Alicia Pkwy.	SF Residential	1/26/93	15:28	67.3 dBA	10	77.9 dBA
NR 9	Lake For- est Dr.	MF Residential	1/27/93	10:28	73.5 dBA	10	77.8 dBA
NR 10 (R25 ¹)	Nellie Gail Develop- ment	SF Residential	7/88	—	49 dBA	—	—
NR 11 (R26 ¹)	Hidden Trail Rd.	SF Residential	7/88	—	46 dBA	—	—
NR 12 (R28 ¹)	Westridge St.	SF Residential	7/88	—	49 dBA	—	—
NR 13 (R30 ¹)	Saddleback Memorial Hospital	Hospital	7/88	—	51 dBA	—	—
NR 14 (R31 ¹)	Quail Creek Ap- artments	MF Residen- tial	7/88	—	51 dBA	—	—

Source: LSA Associates, Inc., 1993.

¹ Field measurement data by J.J. Van Houghten and Associates, Inc., for the noise study for the San Joaquin Hills Transportation Corridor Final Environmental Impact Statement, FHWA-CA-EIS-90-2F, April, 1992. Noise receptor information regarding time, duration, and L_{max} were not included as part of this noise study.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-W-2
Existing Modelled Exterior Noise Exposures
Adjacent to Nearby Roadways

Roadway	Speed Limit (mph)	ADT	CNEL 100' from Centerline (dBA)	Distance to Contours		
				60 dBA (ft)	65 dBA (ft)	70 dBA (ft)
Interstate 5						
- El Toro Rd\Alicia Pkwy	55	242,000	83.04	20128	6365	2013
- Alicia Pkwy\La Paz Rd.	55	225,000	82.72	18714	5918	1871
- La Paz Rd\Oso Pkwy	55	216,000	82.54	17965	5681	1797
El Toro Rd.						
- Ave. de Carlota\Paseo de Valencia	35	27,800	66.66	463	147	46
Los Alisos Blvd.						
- Ave. de Carlota\Paseo de Valencia	40	19,800	66.60	457	145	46
- Paseo de Valencia\I-5	40	25,900	67.77	598	189	60
Alicia Pkwy.						
- West of Moulton Pkwy	45	15,900	66.93	494	156	49
- Moulton Pkwy\Aliso Hills Dr.	45	26,100	69.09	810	256	81
- Aliso Hills Dr.\Paseo de Valencia	45	28,100	69.41	873	276	87
- Paseo de Valencia\Costeau Dr.	45	31,100	69.85	966	305	97
- Costeau Dr.\I-5	45	46,100	71.56	1432	453	143
La Paz Rd.						
- West of Moulton Pkwy	45	18,900	67.69	587	186	59
- Moulton Pkwy\Alameda Av.	45	17,800	67.43	553	175	55
- Alameda Av.\Aliso Hills Dr.	45	18,300	67.55	568	180	57
- Aliso Hills Dr.\Paseo de Valencia	45	19,400	67.80	602	191	60
- Paseo de Valencia\Cabot Rd.	45	19,700	67.87	612	193	61
Oso Pkwy.						
- West of Moulton Pkwy	45	10,700	65.21	332	105	33
- Moulton Pkwy\Nellie Gail Rd.	45	15,400	66.80	478	151	48
- Nellie Gail Rd\I-5	45	17,800	67.43	553	175	55
Nellie Gail Rd.						
- Moulton Pkwy\Hidden Trail Rd.	25	1,200	49.66	9	3	1
- Hidden Trail Rd.\Oso Pkwy.	25	2,600	53.02	20	6	2
- Oso Pkwy.\Cabot Rd.	25	1,500	50.63	12	4	1
Hidden Trail Rd. (Greenfield Dr.)						
- Nellie Gail Rd.\Rapid Falls Rd.	25	1,300	50.01	10	3	1
- Rapid Falls Rd.\City limits	25	3,100	53.78	24	8	2
Rapid Falls Rd.						
- Hidden Trail Rd.\Cabot Rd.	25	2,700	53.18	21	7	2
Moulton Pkwy.						
- North of Alicia Pkwy.	45	29,100	69.56	904	286	90
- Alicia Pkwy.\La Paz Rd.	45	28,800	69.51	894	283	89
- La Paz Rd.\Oso Pkwy.	45	21,500	68.25	668	211	67
- Oso Pkwy.\City Limits	45	23,100	68.56	717	227	72

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-W-2
Existing Modelled Exterior Noise Exposures
Adjacent to Nearby Roadways

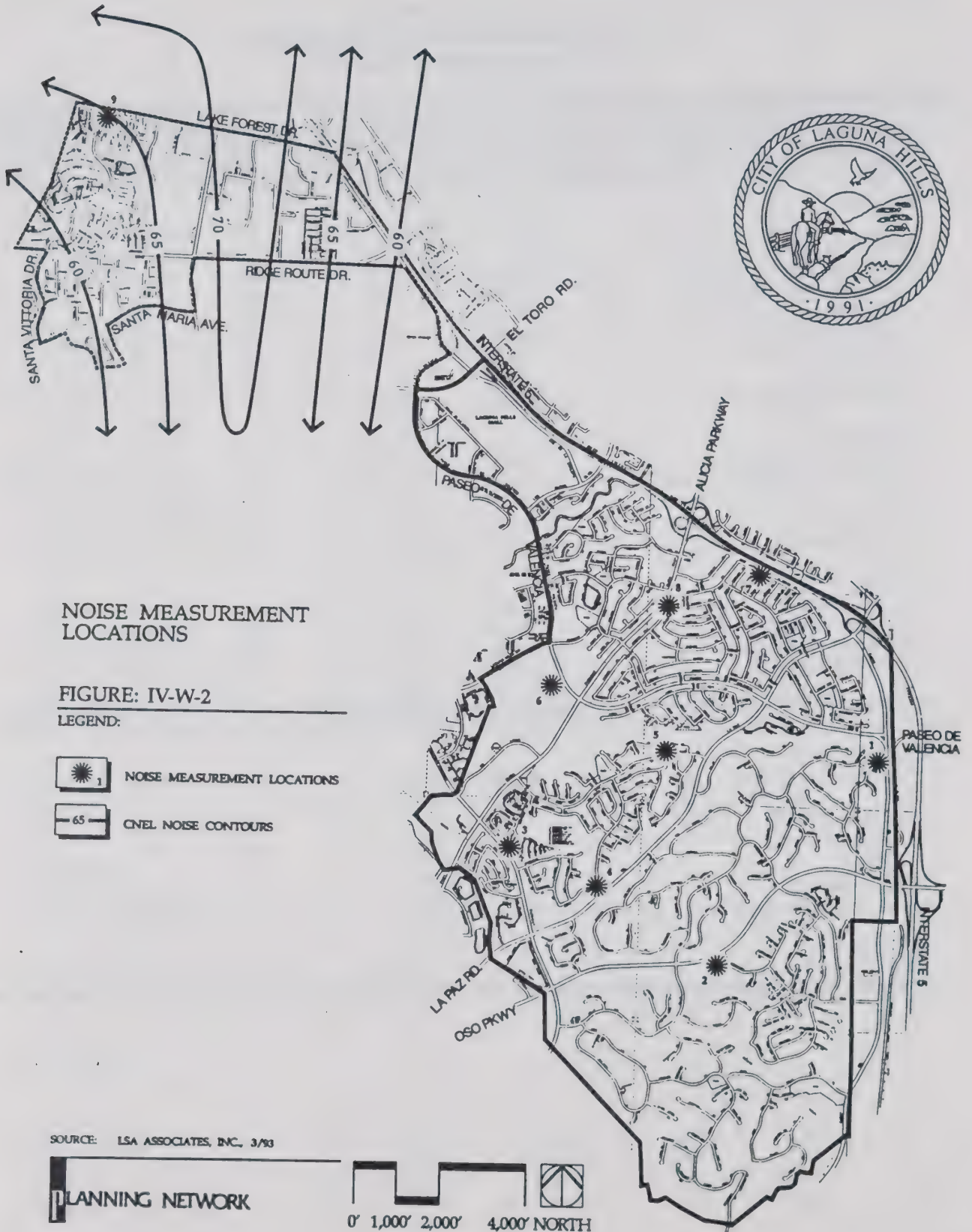
Roadway	Speed Limit (mph)	ADT	CNEL 100' from Centerline (dBA)	Distance to Contours		
				60 dBA (ft)	65 dBA (ft)	70 dBA (ft)
Interstate 5						
Paseo de Valencia						
- El Toro Rd.\Los Alisos Blvd.	45	22,300	68.40	692	219	69
- Los Alisos Blvd.\Laguna Hills Dr.	45	32,800	70.08	1019	322	102
- Laguna Hills Dr.\Alicia Pkwy	45	27,100	69.25	842	266	84
- Alicia Pkwy\La Paz Rd.	45	13,000	66.06	404	128	40
- La Paz Rd.\Cabot Rd.	45	6,000	62.70	186	59	19
Ave de Carlota						
- El Toro Rd.\Los Alisos Blvd.	45	16,600	67.12	515	163	52
Aliso Hills Dr.						
- Alicia Pkwy\Alameda Av.	40	2,600	57.79	60	19	6
- Alameda Av.\La Paz Rd.	40	1,600	55.68	37	12	4
Alameda Av.						
- La Paz Rd.\Aliso Hills Dr.	45	2,100	52.09	16	5	2
Cabot Rd.						
- La Paz Rd.\Paseo de Valencia	45	8,300	64.11	258	82	26
- Paseo de Valencia\Nellie Gail Rd.	45	13,400	66.19	416	132	42
- Nellie Gail Rd.\Oso Pkwy.	45	11,000	65.33	342	108	34
- Oso Pkwy.\City limits	45	9,100	64.51	283	89	28
Laguna Hills Sphere of Influence						
Lake Forest Drive						
- Moulton/Ave.de Carlota	45	27,000	69.23	838	265	84
Ridge Route Drive						
- Moulton/Ave.de Carlota	45	9,000	64.46	279	88	28
Moulton Parkway						
- Lake Forest/Ridge Route	45	35,000	70.36	1087	344	109
Ave de Carlota						
- Lake Forest/Ridge Route	45	14,000	66.38	435	137	43

Source: LSA Associates, Inc., 1993.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



March 31, 1994

IV-W-8

DRAFT MASTER EIR

Existing Roadway Noise Levels

The existing noise levels for the adjacent freeway and arterials were modeled using current traffic and speed characteristics. These noise levels were calculated in terms of the CNEL. The existing traffic volumes were obtained from the Traffic Impact Study Report, prepared by LSA Associates, Inc.

The results of the existing noise modelling are presented in Table IV-W-2 in terms of noise levels at 100 feet from the roadway centerline, and in terms of the distances to the 70 dBA CNEL, 65 dBA CNEL and 60 dBA CNEL contours. These field measurements include noise information related to the San Joaquin Hills Transportation Corridor as depicted in the environmental documentation for this project. The values presented in Table IV-W-2 are considered worst case because they do not account for the effect of existing topography, noise barriers or intervening buildings that may alter the roadway noise levels.

Existing Aircraft Noise

Marine Corps Air Station (MCAS) El Toro, currently one of the largest Marine air facilities in the western United State, is located in Orange County. Its location ten miles southwest of Santa Ana and eight miles inland of the Pacific Ocean places it close to the City of Laguna Hills. The airfield lies in a coastal alluvial plain at the foot of the Santa Ana Mountains, to the northeast. The elevations on the airfields are between 300 and 400 feet. Four to five miles east of the airfield, the terrain elevation rises to 1,300 feet. To the south, coastal hills rise gradually to a height of 1,170 feet, within six miles of the station. At this time, the base loading consists of helicopters and fixed wing aircraft.

In recent years, the lands surrounding military air installations have experienced community encroachment in the form of advancing private enterprise development. Currently, this problem is becoming increasingly prevalent at MCAS El Toro, where the surrounding lands are being developed from agriculture to residential and/or commercial/industrial use. As growth occurs, it is necessary that the emerging developments be compatible with the air station flights and other operations. In order to preserve the air station's mission and to protect surrounding communities, the Department of Defense established the Air Installations Compatible Use Zones (AICUZ) Program.

One of the purposes of the AICUZ is to ensure compatible development in high noise exposure areas while at the same time protecting the operational capabilities of the base.

Projected CNEL noise contours for the MCAS El Toro are shown in Figure VI-5. These contours were developed for the AICUZ Study currently in preparation. These contours indicate that while the majority of the City lies outside any noise contours from MCAS El Toro, a portion of the sphere of influence is within both the 65 and 70 CNEL area. Uses currently developed in this area, i.e., industrial and industrial related office uses, have been determined through the AICUZ study to be compatible with the current aircraft noise environment. In addition, while other areas in the City may be subject to the sight and sound of MCAS aircraft, a typical worst case day at the air base would not create noise impacts outside of those contours provided in Figure IV-W-2.

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Existing Railway Line and Train Operations

One railway line runs directly adjacent to the eastern boundary of the City, between Cabot Road and the Interstate 5 Freeway. The Atchison Topeka & Santa Fe (AT&SF) line passes through this area on its path from Los Angeles to San Diego, carrying both freight and passenger trains. The freight train carries cargo from Fullerton on the San Diego run. The passenger train is AMTRAK, which supports the local commuter network, with stops in Anaheim, Santa Ana, Irvine, San Juan Capistrano, San Clemente and Oceanside. Table IV-W-3 provides a breakdown of the rail operations that occur along these three lines by number, length, time of day and speed rating.

Table IV-W-3
Railroad Operational Data
(1991 Operations)

Railway Segment	# Freight Trains/Day	Train Length (feet)	Distribution Day/Evening/Night	Speed
AT&SF Freight	2	5,500	50%/50%/0%	55 mph
AMTRAK	14	620	71%/14%/14%	90 mph

Source: LSA Associates, Inc., 1993.

The data provided in Table IV-W-3 were analyzed to determine noise associated with rail lines directly adjacent to Laguna Hills. Noise exposure contours along railway tracks are determined from the number and type of trains using the line, the magnitude and duration of each train pass, and the time of day the operation occurs. It should be noted that train whistles do cause temporary increases in the noise environment; however, the short duration of this noise does not affect the projections. The noise contours at 100, 200, 400 and 800 feet from each of these railway lines are shown in Table IV-W-4.

Table IV-W-4
Railroad Noise Contours

Railway Line	Noise Level (Ldn) at			
	100 feet	200 feet	400 feet	800 feet
AT&SF Freight	63.3	59.3	54.3	49.3
AMTRAK	65.4	61.4	56.4	51.4

Source: LSA Associates, Inc., 1993.

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As shown in Table IV-W-4, the AMTRAK trains produce the greater noise of the two trains operating adjacent to the City. The noise generated along this rail line is anticipated to increase as commuter travel grows. The local transportation and air quality agencies are promoting train travel for commuters who are currently driving along Interstate 5 in this area. Encouragement of train commuting, combined with the population growth in southern Orange County, should increase the demand for AMTRAK trips along this route.

The current level of freight activity is not expected to increase significantly in the future, according to company representatives. However, rail traffic will respond to market demand and may increase or decrease, depending on future industrial development along the line. Any future impact will be related not only to the number of operations occurring each day, but also to the time of day at which they occur. A significant increase in nighttime operations for AMTRAK or freight trains may have detrimental effects on the quality of life in the City of Laguna Hills.

Construction Noise

The hillside residential areas that constitute much of Laguna Hills contain large homes whose residents have pursued the serenity and isolation of these locations. Construction noise could affect this serenity where noise is projected into residential neighborhoods. Some noise disturbance in areas adjacent to construction sites is to be expected. These disturbances are due to demolition, grading, construction of new buildings and relocation activities. Construction typically requires the use of heavy construction equipment and occasional blasting where hard rock is encountered.

Although construction noise will be a short-term impact, there is the potential for disruption of nearby residents if steps are not taken to limit the intensity and duration of their noise exposure. The City has adopted the Orange County Noise Ordinance, which limits any construction related activity to between the hours of 7:00 a.m. and 10:00 p.m., Monday through Saturday. Compliance with noise ordinance restrictions on construction activities will help minimize potential short-term construction impacts.

PROJECT IMPACTS

The impacts of the proposed General Plan as they relate to noise are discussed in the Noise Section of the Environmental Hazards portion of the General Plan. The increase in population and traffic resulting from build out of the proposed General Plan will result in a commensurate increase in traffic related noise within the study area. Since the increase in population within the study area will be minor because of the lack of undeveloped vacant land, the corresponding increase in Laguna Hills generated traffic will also be minor. Therefore, the majority of future noise increases in the study area will occur as a result of traffic increases due to growth in surrounding areas and not growth related to Laguna Hills. The City should work with the surrounding jurisdictions to minimize future roadway noise resulting from increases in traffic volumes, and consider this in its review of future development projects within the study area. Table IV-W-5 provides information regarding future roadway noise along 14 major roadways within the study area based upon the traffic analysis prepared for this project.

In addition to vehicular related noise, portions of the study area experience noise from aircraft overflights from El Toro MCAS. Implementation of the proposed General Plan land uses may increase the number of residents and businesses exposed to aircraft noise.

The City will continue to work with representatives of El Toro MCAS to ensure that future development within the study area is consistent with the land use and noise policies outlined for the base. The City will also monitor and participate in the current discussions and future planning/environmental studies regarding reuse of the base facility.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

MITIGATION MEASURES

- (W.1) The City of Laguna Hills shall require that all development projects determined to exceed the mitigation standards as described in Table IV-W-6 shall incorporate, but not be limited to, those mitigation measures identified in Table IV-W-7. Mandatory mitigation shall apply to all described and applicable project conditions. Recommended mitigation shall apply to the extent that further mitigation is necessary to achieve noise levels that are insignificant.

Table IV-W-5
Interior/Exterior Noise Standards

Land Use	Maximum Exterior	Maximum Interior
Rural, Single Family, and Multi-Family Residential	65 dBA CNEL ¹	45 dBA CNEL ¹
Schools:		
Classrooms		45 dBA L _{eq} ¹
Playgrounds	70 dBA L _{eq}	—
Libraries	—	45 dBA L _{eq}
Hospitals/Convalescent Facilities:		
Sleeping Areas	—	45 dBA CNEL
Living Areas	65 dBA CNEL	50 dBA CNEL
Reception, General Office, Clerical	—	50 dBA L _{eq}
Hotels/Motels:		
Sleeping Areas	—	45 dBA CNEL
Reception, General Office, Clerical	—	50 dBA L _{eq}
Places of Worship	65 dBA L _{eq}	45 dBA L _{eq}
Open Space/Recreation:		
Wildlife Habitat	60 dBA CNEL	—
Quiet, Passive Areas	65 dBA L _{eq}	—
Active Recreation Areas	70 dBA L _{eq}	—
Commercial and Business Park	—	45 dBA L _{eq}
Private Office	—	50 dBA L _{eq}
General Office	—	55 dBA L _{eq}
Restaurant, Retail Store, etc.	—	65 dBA L _{eq}
Warehousing		

Source: LSA Associates, 1993.

¹ CNEL and Leq noise rating scales are described in the Laguna Hills Master EIR.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

(W.2) The City of Laguna Hills shall not permit any proposed use or activity that generates noise in excess of 60 dBA CNEL into a known wildlife nesting or migration area or desirable open space area as necessary to maintain tranquility, viable wildlife habitat and wildlife mobility.

MITIGATION MONITORING

Prior to the issuance of a building permits, the City Building Official shall verify that proper acoustical study and documentation exist to bring project noise impacts to within the standards identified in Table IV-W-6.

Table IV-W-6
General Plan Exterior Noise Exposures Adjacent
to Nearby Roadways

Roadway	Speed Limit (mph)	ADT	CNEL 100' from Centerline (dBA)	Distance to Contours		
				60 dBA (ft)	65 dBA (ft)	70 dBA (ft)
Interstate 5						
El Toro Rd\Alicia Pkwy	55	335,600	84.46	27,913	8,827	2,791
Alicia Pkwy\La Paz Rd.	55	304,500	84.04	25,326	8,009	2,533
La Paz Rd\Oso Pkwy	55	261,900	83.38	21,783	6,888	2,178
El Toro Rd.						
Ave. de Carlota\Paseo de Valencia	35	35,200	67.69	587	186	59
Los Alisos Blvd.						
Ave. de Carlota\Paseo de Valencia	40	23,700	67.38	548	173	55
Paseo de Valencia\I-5	40	30,000	68.41	693	219	69
Alicia Pkwy.						
West of Moulton Pkwy	45	21,000	68.14	652	206	65
Moulton Pkwy\Aliso Hills Dr.	45	34,700	70.32	1,078	341	108
Aliso Hills Dr.\Paseo de Valencia	45	36,100	70.50	1,121	354	112
Paseo de Valencia\Costeau Dr.	45	34,900	70.35	1,084	343	108
Costeau Dr.\I-5	45	47,200	71.66	1,466	463	147
La Paz Rd.						
West of Moulton Pkwy	45	38,900	70.82	1,208	382	121
Moulton Pkwy\Alameda Av.	45	21,100	68.16	655	207	66
Alameda Av.\Aliso Hills Dr.	45	21,700	68.29	674	213	67
Aliso Hills Dr.\Paseo de Valencia	45	22,500	68.44	699	221	70
Paseo de Valencia\Cabot Rd.	45	25,800	69.04	801	253	80
Oso Pkwy.						
West of Moulton Pkwy	45	25,600	69.00	795	251	79
Moulton Pkwy\Nellie Gail Rd.	45	29,100	69.56	904	286	90
Nellie Gail Rd\I-5	45	31,400	69.89	975	308	98
Moulton Pkwy.						
North of Alicia Pkwy.	45	35,100	70.37	1,090	345	109
Alicia Pkwy.\La Paz Rd.	45	44,000	71.36	1,366	432	137
La Paz Rd.\Oso Pkwy.	45	44,700	71.42	1,388	439	139
Oso Pkwy.\City Limits	45	36,400	70.53	1,130	357	113
Paseo de Valencia						
El Toro Rd.\Los Alisos Blvd.	45	54,700	72.30	1,699	537	170
Los Alisos Blvd.\Laguna Hills Dr.	45	43,700	71.33	1,357	429	136
Laguna Hills Dr.\Alicia Pkwy	45	36,200	70.51	1,124	355	112
Alicia Pkwy\La Paz Rd.	45	16,000	66.96	497	157	50

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table IV-W-6
General Plan Exterior Noise Exposures Adjacent
to Nearby Roadways

Roadway	Speed Limit (mph)	ADT	CNEL 100' from Centerline (dBA)	Distance to Contours		
				60 dBA (ft)	65 dBA (ft)	70 dBA (ft)
Aliso Hills Dr.						
Alicia Pkwy\Alameda Av.	40	3,100	58.55	72	23	7
Alameda Av.\La Paz Rd.	40	2,800	58.11	65	20	6
Cabot Rd.						
La Paz Rd.\Paseo de Valencia	45	27,300	69.28	848	268	85
Paseo de Valencia\Nellie Gail Rd.	45	29,000	69.55	901	285	90
Nellie Gail Rd.\Oso Pkwy.	45	28,600	69.48	888	281	89
Oso Pkwy.\City limits	45	24,500	68.81	761	241	76
Laguna Hills Sphere of Influence						
Lake Forest						
Moulton/Ave.de Carlota	45	35,600	70.44	1,105	350	111
Ridge Route						
Moulton/Ave.de Carlota	45	13,600	66.26	422	134	42
Moulton						
Lake Forest/Ridge Route	45	35,900	70.47	1,115	353	111
Ave de Carlota						
Lake Forest/Ridge Route	45	20,500	68.04	637	201	64

Source: LSA Associates, Inc., 1993.

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X. HAZARDOUS MATERIALS

EXISTING SETTING

Hazardous Materials

A hazardous material is defined as any injurious substance, including pesticides, herbicides, toxic metals and chemicals, volatile chemicals, explosives, and nuclear fuels and materials. The use of hazardous materials is commonplace in modern commercial and industrial/manufacturing activities. Because these materials are increasingly used in urban settings, and because they represent such a serious potential threat to human health and safety, strict laws and regulations have been developed to control their use, storage, disposal, and transport.

Hazardous materials can be classified into the following four general categories.

- *Explosives* can produce rapid chemical reactions causing damage due to blast and flash fire.
- *Flammable materials* are dangerous because of their low ignition temperature and rapid burning characteristics. Some flammable materials burn so violently that they cannot be extinguished, and must be allowed to burn out naturally.
- *Irritants* can cause inflammation or destruction of living tissue with mild to severe effects, based on the degree of exposure and type of material involved.
- *Toxins* include various poisons that are harmful or fatal if swallowed, inhaled, or ingested through the skin.

Because of their widespread use, many types of hazardous materials are transported through, used or stored, to some degree, within the City of Laguna Hills.

Transport of Hazardous Materials

The transport of hazardous materials by truck or rail is regulated by the United States Department of Transportation through National Safety Standards. The federal safety standards are also included in the California Administrative Code, Environmental Health Division. The California Health Department regulates industrial hazardous waste haulers only. Although local government has limited authority with respect to hazardous materials/waste, transportation of these materials can be regulated on local City streets. There are currently no designated routes or travel time restrictions for hazardous material transporters on City streets.

Road Transport

The major transportation arterial in proximity to the General Plan study area is Interstate 5 (I-5). It is likely that hazardous materials are transported along the General Plan study area boundary on the I-5 Freeway. Therefore, a potential for hazardous materials spills exists in the General Plan study area. The California Highway Patrol (CHP) is responsible for the general enforcement of motor carriers hauling hazardous wastes. The CHP employs the following three basic methods of enforcement regarding transport of hazardous materials.

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- Truck scales issue "compliance ratings," which monitor maintenance, vehicle code, safety, and cargo compliance with federal, State, and local laws. There are no truck scales within the General Plan study area. The nearest truck scale is located on the Riverside Freeway (91) at Weir Canyon Road, and is commonly referred to as the Prialta Truck Scales.
- The CHP's Motor Carrier Safety Unit conducts inspections at "terminals," which are generally areas or yards where trucks are parked and/or operated from (for example, school bus terminals and truck stops/yards).
- A "Mobile Road Enforcement Program" is employed, which utilizes two officers to patrol roadways with the authority to set up lane inspections on City and County roadways, as well as on State highways.

Rail Transport

Rail is the preferred mode of hazardous waste transport. Rail transportation involves significantly fewer accidents on a ton per mile basis than motor vehicle transport. In addition, rail carriers in Southern California have a comprehensive emergency response program in the event of an accident. Currently, all hazardous materials used or waste generated in Laguna Hills is transported by motor vehicle.

Hazardous Waste Generators

A database search, provided by the County of Orange Fire Department, indicates that there are 97 registered hazardous waste generators in Laguna Hills. As shown in Table IV-X-1, the list of those who use or generate hazardous materials includes, but is not limited to, manufacturing businesses, dry cleaners, automotive businesses, photo labs, medical services, grocery stores and pool supply houses.

Storage and Use of Hazardous Materials

Regulation and enforcement of safety measures for the storage and use of hazardous materials is the responsibility of many agencies, including the Orange County Fire Department. National, State, and local fire codes act as a guideline for local enforcement.

The Environmental Protection Agency (EPA) ensures that containers of hazardous materials are properly labeled with instructions for use. The California Department of Industrial Relations, Cal-OSHA Division, regulates the proper use of hazardous materials. The United States Department of Agriculture, California Department of Food and Agriculture, and the Department of Industrial Relations regulate pest control operations, pesticide dealers, and pesticide users to insure that hazardous agricultural chemicals are properly used.

CITY OF LAGUNA HILLS**DRAFT MASTER EIR**

Table IV-X-1
Businesses that Use, Store, Transport,
and Dispose of Hazardous Waste

Business in General Plan study area	Number
Auto Related	12
Cleaners	9
Fire Department	1
Florist	2
Glass Door Shop	1
Jewelry Store	1
Laguna Hills High School	1
Landscape Related	3
Manufacturing	15
Medical	28
Paint Store	1
Pest Control	2
Photo Shops	2
Pool Supply	1
Printing	4
Professional Community Management	6
Realty	1
Recreation	2
Restaurant/Hotel	3
Sporting Goods	1
Water District (Moulton-Niguel)	1
Total	97

Source: Orange County Fire Department, January 1993.

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Disposal of Hazardous Wastes

Currently, there are no active landfills operating in Orange County that accept hazardous wastes. Hazardous wastes generated within the County, which are disposed of offsite, are transported to Casmalia Landfill in Santa Barbara County and to Kettleman Hills Landfill in Kings County, or to facilities in other states. Both facilities are considered to be active "Class One" landfills, capable of handling all types of urban wastes, including toxic and hazardous materials (except explosives and radioactive materials).

Illegal Dumping

Illegal dumping takes on many forms, including disposal on plant property, on vacant land or into the sewers. In addition, the Orange County Water District has identified incidence of localized groundwater contamination resulting from inadvertent release of virgin hazardous materials.

The number of hazardous waste sites requiring cleanup is expected to increase due to the following:

- a possible increase in illegal disposal due to the phased closure of most of the hazardous waste landfills to untreated hazardous waste, and a significant increase in costs to dispose, treat, or recycle;
- an increase in awareness and reporting by the public; and
- a greater implementation of programs by OCHCA and other agencies.

In addition, the mitigation of such sites is technically complex and can take several years. This can result in costs to responsible parties, if they can be identified, that are prohibitive. However, monitoring of storm sewers by EMA and the groundwater by the Orange County Water District has indicated that any widespread illegal disposal of hazardous waste to the groundwater has not endangered this resource to a significant extent.

Hazardous Materials Emergencies

Hazardous materials emergencies are responded to by the Orange County Fire Department. The City of Laguna Hills contracts with the Orange County Fire Department for fire service and receives hazardous material emergency response as part of OCFD's contract.

The County Fire Department maintains a hazardous materials emergency response team located in Irvine at Station 4. The "HazMat Team" responds to hazardous materials spills and leaks, providing expertise in the safe handling, abatement, and documentation of the emergency. As a service provider, OCFD joined in forming and is a member of the Orange County-City Hazardous Material Emergency Response Authority, a joint powers response and cost recovery system.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Nuclear Hazards

The San Onofre Nuclear Generating Station (SONGS) is located on Camp Pendleton in San Diego County approximately 15 miles south of Laguna Hills. Radioactive byproducts are contained within the plant, with the exception of small quantities of radioactive gas released into the air and liquids released into the Pacific Ocean. The releases are monitored by SONGS personnel, and according to SONGS, radiation exposure due to material release is less than the typical exposure from natural background radiation. The two most likely sources of radiation contamination are transportation accidents involving transport of radioactive materials and uncontrolled releases at the plant site.

The U.S. Nuclear Regulatory Commission has identified the area surrounding nuclear generating stations as an Emergency Planning Zone (EPZ). The State of California has defined the area outside and adjacent to the EPZ as a Public Education Zone (PEZ). The City is located within the SONGS' PEZ. The Federal Government establishes the area with a 50-mile radius around every nuclear generating station as an Ingestion Pathway Zone (IPZ). At SONGS, the IPZ encompasses all of Orange County. Figure IV-X-1, Regional Nuclear Hazards, locates the EPZ and PEZ surrounding SONGS in relation to Laguna Hills.

PROJECT IMPACTS

The impacts of the proposed General Plan as they relate to hazardous materials are discussed in the Hazardous Materials Section of the Environmental Hazards portion of the General Plan. The increase in population that will result from the implementation of the proposed General Plan could incrementally increase the number of people exposed to potential incidents involving hazardous materials within the study area. In addition, increases in population and businesses associated with the proposed General Plan will result in a commensurate increase in the generation of household and business related hazardous waste. These increases will be relatively minor and insignificant.

MITIGATION MEASURES

- (X.1) The City of Laguna Hills shall require that all commercial, office, and business park uses comply with the provisions of the Orange County Hazardous Waste Management Plan and the most current amendments to the California Code of Regulations, Title 22.
- (X.2) Concurrent with submittal of development applications, project applicants will be required to submit a history of on-site soil use and, if warranted, a soil survey to determine the potential presence of hazardous substances in the soil.
- (X.3) The City of Laguna Hills shall reduce the risk associated with the accumulation of household hazardous waste by continuing to play an active role in the implementation of the County of Orange Household Hazardous Waste Program.

MITIGATION MONITORING

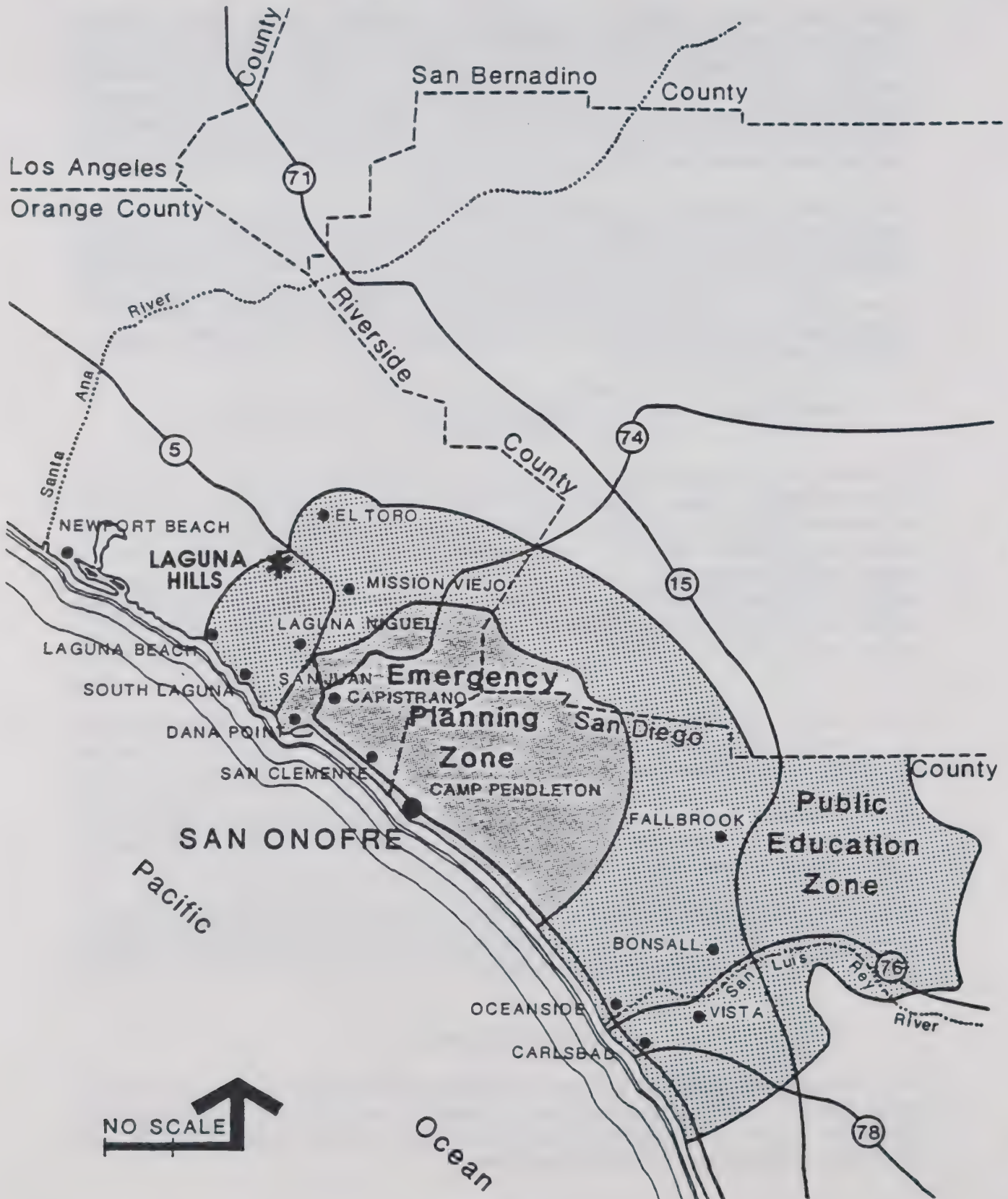
As a participant in the County's Hazardous Waste Management Plan, the City of Laguna Hills shall require that prior to the issuance of certificates of occupancy, uses which use hazardous materials demonstrate that they are consistent with City, County, State, and Federal laws regarding the use, manufacture, sale and disposal of hazardous substances.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Figure IV-X-1 Regional Nuclear Hazards



March 31, 1994

Y. AIRPORT HAZARDS MANAGEMENT

EXISTING SETTING

There are two airports in the general vicinity of Laguna Hills. John Wayne Airport is a general aviation facility located northwest of the City. The El Toro Marine Corps Air Station, which is restricted to military use at the present time, but is slated for closure in the near future, is located directly north of the General Plan study area. Although no re-use plan has been prepared for MCAS, El Toro, it has been suggested that the site could be converted from the current military operations into a civilian commercial airport facility.

Portions of the study area to the south of MCAS, El Toro, are impacted by the operations of the military aircraft takeoffs and landings. As part of the Airport Installation Compatibility Use Zones (AICUZ) study completed by the Military, areas of potential safety hazards associated with flight operations within the area surrounding the base have been identified. The existing aircraft accident potential zones include a Clear Zone, Accident Potential Zone I, and Accident Potential Zone II (see Figure IV-Y-1).

Since the City of Laguna Hills and surrounding communities have developed around MCAS, El Toro, the safety of air operations has been well documented, and land uses in areas that are the most likely areas for accidents to occur have been adjusted to conform to military regulations. These areas, referred to as Accident Potential Zones (APZs), are derived from Department of Defense studies of historical accident data of military airports. Each military airport has these accident potential zones and the number and dimensions vary according to the category of aircraft using the airport. As described below and in Figure VI-2, portions of MCAS, El Toro, APZ II extend over a portion of the City's sphere of influence. Although they do not affect the General Plan study area, the MCAS, El Toro, Clear Zone and Accident Potential Zone I are also included for clarification.

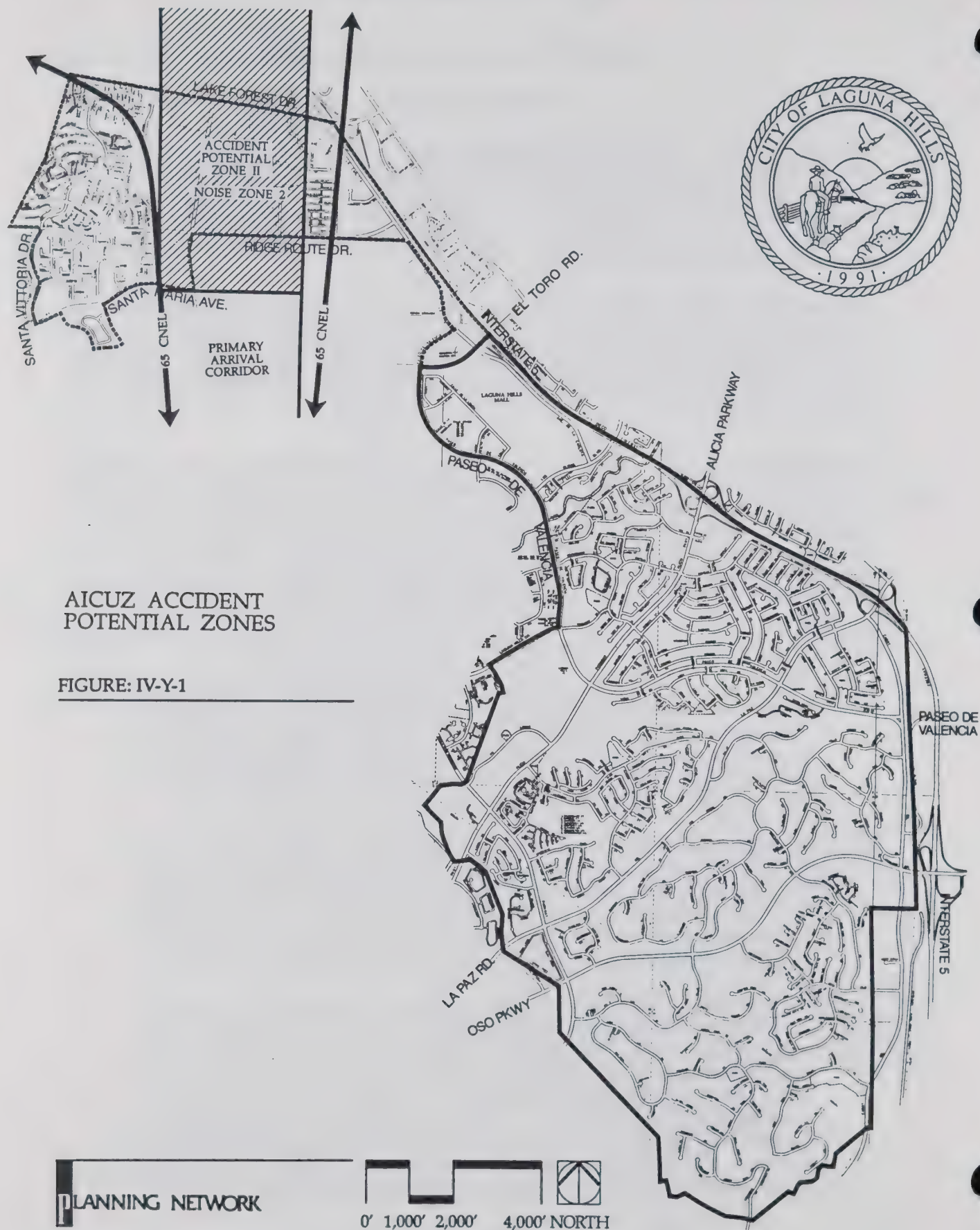
Clear Zone: The Clear Zone lies immediately beyond the end of the runway and extends outward along the extended runway centerline for a distance of 3,000 feet. This distance was chosen because it represents the area within which two-thirds of all accidents occur. The Clear Zone also fans out from the runway starting from the end of the runway and 200 feet from the centerline and extends 750 feet at its widest point. A clear zone is applied to each active runway.

Accident Potential Zone I: APZ I is a rectangular area beyond the clear zone that possesses a significant potential for accidents. This zone is 3,000 feet wide by 5,000 feet long, and is shaped to conform to the shape of the flight paths, since accidents occur more frequently on approaches than departures. The Military has recommended significant limitations on the types of allowable land uses and their intensity as a means of reducing concentrations of people within this area.

Accident Potential Zone II: APZ II is a rectangular area that extends beyond APZ I that still has a measurable potential for accidents. APZ II is normally designated under a flight path whenever APZ I is required. Dimensions of these zones are usually 3,000 feet wide by 7,000 feet long. If APZ I is not required, then APZ II is not normally required since there is much less chance of a serious accident (as evidenced by having a APZ I). However, it may be required without a corresponding APZ I if an analysis of accidents and operations indicates the need for this zone. APZ II may be modified to represent the actual curve of a flight path. When APZ II is warranted, it is most often applied to approach paths.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR



PROJECT IMPACTS

The impacts of the proposed General Plan as they relate to airport hazards are discussed in the Airport Hazards Management Section of the Environmental Hazards portion of the General Plan. These hazards are currently limited to the City's planned annexation area.

MITIGATION MEASURES

- (Y.1) Prior to the full closure of the MCAS, El Toro, and the cessation of all military air operations affecting the City, the City of Laguna Hills shall require that all development within established MCAS, El Toro flight path conform to the height, density, intensity, and noise mitigation standards outlined in the military's AICUZ study.

V. ALTERNATIVES TO THE PROPOSED PROJECT

V. ALTERNATIVES TO THE PROPOSED PROJECT

A. INTRODUCTION

The following is an analysis of the alternatives to the Laguna Hills General Plan. This section focuses on the environmental impacts that would be expected to occur if the various alternative land use scenarios, Suburban "Small Town" Community, Urban Community, or Economic Enhancement Community, were selected, and the City were to be "built out" under the land use designations each proposes. In addition, a "No Project Alternative" is described and evaluated.

It is the purpose of this section to provide an analysis of the trade-offs (in terms of environmental effects) that would be implicit in the selection of any of these alternatives. For instance, selection of the Economic Enhancement Alternative would result in the creation of more local jobs, but at the cost of creating more vehicle trips, air pollution, sewage, etc. A knowledge of these trade-offs is necessary to provide the citizenry and decision makers with a factual groundwork on which to base decisions about the future of Laguna Hills.

In this section, several alternatives having different populations and numbers of housing units, as well as different land use assumptions at build out, are evaluated for their potential impacts on the environment. The impacts associated with implementation of these various alternatives are analyzed and compared to those resulting from the proposed project. By this comparison, it can be determined whether another alternative might eliminate any significant environmental impacts resulting from the project.

The General Plan Alternatives for the City of Laguna Hills are based on different views of managing the community's future. The alternatives were developed based upon the Community Themes that were derived from the analysis of community issues in the Community Profile. These different views or "abstracts" represent, therefore, a menu of potentially feasible strategies the City could implement in order to solve issues identified in the Community Profile.

Thus, the alternatives analyzed in this section are the three described above, along with the CEQA mandated No Project Alternative. These alternatives are described and compared to the proposed project in the following sections.

CEQA also requires that an EIR describe a range of reasonable alternatives to the proposed project, or to its location. A General Plan by nature is specific to its jurisdiction, and moving the project to another site is not feasible. Since State law requires that the preparation of a General Plan be specific to the defined boundaries of a city, an alternative site would be inappropriate and inconsistent with CEQA. Therefore, this topic will not be discussed further.

NO PROJECT ALTERNATIVE

CEQA requires the discussion of the No Project Alternative, which has been defined for this Master EIR as continuing to use the currently existing General Plan. In this instance, since the City of Laguna Hills has recently incorporated and does not have an existing City General Plan, the existing County General Plan, which the City has adopted on an interim basis, would continue as the land use policy document for the City. This alternative, while it is a feasible alternative, is not considered to be a realistic alternative, because of the desire of City leaders to develop a current General Plan specific to the needs of the community. Thus, continued development under the No Project Alternative, while feasible, is not practical and, therefore, this alternative is not further discussed. In addition, since there is very little developable land remaining in the City, the existing land uses and their attendant impacts would be very similar to future development under the No Project Alternative.

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B. ALTERNATIVE 1: SUBURBAN "SMALL TOWN" COMMUNITY

Alternative 1 represent the creation of a city that considers itself to be a suburban "small town." This alternative envisions a community that promotes community/social interaction on a neighborhood level. The overall focus of the community would be on the creation of services and facilities that foster family interaction, tapping into the "spirit and sense of community" identified in the City of Laguna Hills.

In order to retain a "small town" feel, local commercial centers and office uses would remain at existing intensities. The approved expansion of the Laguna Hills Mall could proceed under this alternative. The land use character of the community would emphasize a clear and distinct separation between the various land use types, intensities, and densities. Protection of the neighborhood structure of the community through the use of buffering and land use transition techniques would be balanced with provisions for open space and bicycle, pedestrian, and equestrian connections between uses.

The primary purpose of regionally oriented, non-residential land uses would be to provide support of the family oriented lifestyle desired by the community residents. Local businesses would be encouraged to share in civic responsibilities, as equal partners in the preservation of the small town community lifestyle.

Alternative 1 envisions a great deal of citizen participation in the local activities of government, especially in government programs, which would be designed to benefit the social nature of the community. Residents would be encouraged to be active participants in City government through neighborhood associations, neighborhood watch, or other similar groups. Emphasis would be placed on the provision of services that benefit families and the overall social interaction of residents in the community. The City Hall would also be seen as a comfortable and approachable place, on a par with other community facilities.

Housing policy in this alternative would focus on the maintenance of the City's residential neighborhoods and existing residential housing stock. New high density development would be discouraged.

Under Alternative 1, there would be 10,319 dwelling units, with a total population of approximately 27,950 This alternative would also include 107 acres of Regional Commercial use, and approximately 125 acres of General Commercial Uses. Professional Office uses would include approximately 102 acres, Mixed Use 17.7 acres and Industrial Business Park approximately 318 acres.

C. ALTERNATIVE 2: URBAN COMMUNITY

Alternative 2 focuses on the creation of a "full service" urban community dedicated to providing a balance of shopping, housing, active recreation, and employment opportunities for all age groups. The overall focus of this alternative would be to build on existing community spirit through the creation of an "Urban Village" center, within which major civic and cultural activities would take place.

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The land use character of the community would provide for an increase in the overall intensity of non-residential uses, focusing on establishing new commercial intensity along the I-5 freeway corridor. Industrial use in North Laguna Hills would be transitioned to a higher intensity office/retail mix to act as support to employment centers north of the General Plan study area.

Alternative 2 provides for citizen participation in government by developing civic uses in a concentrated urban village cores concept in and around the Laguna Hills Mall. It is envisioned that community and cultural facilities would be mixed with commercial and service uses at the village center. Regional commercial businesses would be encouraged to provide sponsorship of community activities within the village center to provide community activities and to increase retail tax generation at the mall.

Housing policies would focus on the provision of affordable housing to satisfy projected needs by allowing for increases in the density of underutilized parcels, density bonuses for existing multiple family housing, and encouragement of mixed use projects.

Under Alternative 2, there would be 10,842 dwelling units, with a total population of approximately 29,382. This alternative would include approximately 282 acres of Village Commercial plus 130 acres of other commercial uses. Professional Office uses would include approximately 24 acres, with an additional 313 acres of Mixed Use.

D. ALTERNATIVE 3: ECONOMIC ENHANCEMENT COMMUNITY

Alternative 3 relies on enhancing the sales tax generating potential of the City's commercial and retail areas as the focus of development. Under this alternative, the intensity of retail commercial and industrial uses would be maximized in an effort to increase tax generation and to fund increased levels of community services and amenities.

The land use character of the community would focus on creating intensity in the commercial and office uses and providing distinct buffers adjacent to residential areas. Emphasis would be placed on balancing the increase in intensity with the creation of an enhanced circulation system to provide easy and efficient access to commercial and industrial areas from the I-5 freeway and to separate such traffic from residential portions of the community. In this alternative, the residential areas of the City would be isolated from the regional commercial and employment uses.

Alternative 3 would promote local government services and enhanced community amenities. Fiscal responsibility would be the major focus in the provision of services and facilities to the residents. City regulations would be focused on balancing an enhanced lifestyle of neighborhood residents with the desire to maximize municipal income.

Housing policies would focus on the provision of affordable housing to satisfy regional needs and increase local taxable sales by allowing for substantial increases in density of underutilized parcels, density bonuses, parking reductions, and other incentives for increasing the number of units within existing multiple family housing development, and encouragement of mixed use projects. Single family housing, however, would be maintained in its originally approved densities, and would be protected from urban encroachment.

DRAFT MASTER EIR

Under Alternative 3, there would be 10,584 dwelling units, with a total population of approximately 28,660. This alternative would also include 178 acres of Regional Commercial uses, along with 109 acres of Freeway Commercial and 73 acres of other commercial uses. Professional Office uses would include approximately 32 acres, with an additional 281 acres of Mixed Use.

E. ALTERNATIVES EVALUATION

The following information represents a comparative analysis of the project alternatives. A quantitative comparison of population, housing, student generation, water consumption, wastewater generation, solid waste, energy consumption, and demands for other public services and facilities that would result from build out of each alternative is presented and summarized in Table V-1. In addition, a qualitative comparison of other environmental impacts that might result from build out of each alternative is also included. The results of computer traffic modelling of each alternative have also been included. In addition, the employment, economic base diversity, and economic self-sufficiency implications associated with each alternative are defined, and the economic consequences of lesser or greater rates of growth are discussed.

ALTERNATIVE 1

Population and Housing

In terms of build out statistics, Alternative 1 represents a minimum amount of new residential development. As shown in Table V-1, an additional 78 dwelling units and a population increase of 105 residents are anticipated at build out of the General Plan study area.

Land Use

In comparison to the proposed project and the other alternatives, Alternative 1 proposes to maintain the existing land use pattern of residential land use within the General Plan study area, which is generally less inclusive than the other alternative (see Table V-1). New residential development would be generally limited to infill of existing undeveloped parcels throughout the General Plan study area.

Commercial, office and industrial land uses are also comparable to the land uses now existing in the General Plan study area. Business Park development in the City's sphere of influence area is proposed to remain close to the intensities existing today. An additional level of commercial entitled "Neighborhood Commercial" would be added to create opportunities for neighborhood oriented businesses serving surrounding residential areas, and to offer limited public and social types of uses. Park development, however, is projected to expand significantly under Alternative 1 into areas beyond what has been offered for dedication to the City (see Table V-1). Public service and facilities impacts associated with the build out of land uses proposed in Alternative 1 are indicated in Table V-1.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table V-1
Summary of Environmental Impacts of the Alternatives Laguna Hills General Plan Master EIR

	Existing ¹ Conditions	Proposed Project	Alternative 1	Alternative 2	Alternative 3
Total Population	27,888	29,111	28,055	29,382	28,660
Total Housing Units	10,241	10,745	10,319	10,842	10,584
General Commercial (acres)	349.80	345.48	232.00	412.00	360.00
Land Use	N/A	Same	Same	Increased	Increased
Circulation					
ADT	230,324	274,042	279,012	375,157	412,221
VMT	1,966,967	2,340,318	2,382,762	3,203,841	3,520,367
Water Facilities ² / (gallons per day)	5,159,280	5,385,535	5,170,750	5,435,670	5,302,100
Wastewater Facilities ³ / (gallons per day)	4,300,000	506,255	4,304,300	4,524,828	4,413,640
Electricity ⁴ / (kwh per day)	650,000	672,557	651,235	684,600	667,778
Natural Gas ⁵ / (cubic feet per day)	2,544,826	2,677,960	2,550,437	2,681,108	2,615,225
Telecommunications	N/A	Increased	Same	Increased	Increased
Law Enforcement ⁶	34	35	34	36	35
Fire Facilities ⁷	22	23	22	23	23
Schools - (acres/students)	101.6/ 4,027	100.5/ 4,244	92.4/ 4,045	82.4/ 4,263	82.4/ 4,162
Government Facilities and Services	N/A	Same	Same	Increased	Increased
Parks and Recreation Facilities (acres)	77.96	212.25	238.21	82.89	311.41
Open Space (acres)	535.24	478.24	359.67	506.49	303.17
Social Services	N/A	Same	Same	Increased	Increased
Solid Waste Facilities ⁸ / (tons per day)	62.5	65.4	62.7	65.9	64.3
Air Quality	N/A	Increased	Same	Increased	Increased
Water Resources and Water Quality	N/A	Increased	Same	Increased	Increased
Soils	N/A	Same	Same	Same	Same
Mineral Resources	N/A	Same	Same	Same	Same
Wildlife and Plants	N/A	Same	Same	Same	Same
Geology and Seismicity	N/A	Same	Same	Same	Same
Flood Hazards	N/A	Same	Same	Same	Same
Noise/Sound Attenuation	N/A	Increased	Same	Increased	Increased
Aircraft Hazards	N/A	Same	Same	Same	Same
Hazardous Materials	N/A	Same	Same	Same	Same
Emergency Preparedness	N/A	Same	Same	Same	Same

Source: LSA Associates, Inc., 1993.

DRAFT MASTER EIR

Table V-1

Summary of Environmental Impacts of the Alternatives Laguna Hills General Plan Master EIR (Cont'd)

Footnotes:

- ¹ Existing condition population and housing figures are based on 1990 census data.
- ² Moulton Niguel Water District (MNWD) uses a consumption factor of 185 gallons per capita per day.
- ³ MNWD uses a residential wastewater generation factor of 100 gallons per capita per day. Commercial and other land uses have a generation factor of 2,500 gallons per acre per day.
- ⁴ Estimates of electricity consumption are based upon the South Coast Air Quality Management District (SCAQMD) consumption factors.
- ⁵ Estimates of gas consumption are based upon demand rates obtained from SCAQMD, CEQA Handbook, 1992.
- ⁶ Number of law enforcement officials needed is based upon a ratio of 1.2 officers per 1,000 residents.
- ⁷ Number of firefighters needed is based upon a ratio of 0.78 firefighters per 1,000 residents.
- ⁸ Solid waste generation factors are 8.5 pounds per day per residential unit, 5.0 pounds per day per 1,000 square feet of commercial uses and 8.0 pounds per day per 1,000 square feet of industrial use.

Transportation

When compared to socioeconomic data (dwelling units and employment) generated for the existing condition and the proposed project, the Alternative 1 land use mix generates an increase of approximately 21 percent in daily trips generated, or a total of approximately 279,000 daily trips. In the future Alternative 1 scenario, the City will generate approximately 214,900 daily trips, compared to an existing 167,300 daily trips. The annexation area will generate approximately 64,100 daily trips, compared to an existing 63,000 daily trips.

Daily traffic volumes are forecast to grow moderately in the post-2010 scenario with implementation of the Alternative 1 land use mix. The greater traffic increases are anticipated around the Laguna Hills Mall, along Alicia Parkway and Cabot Road.

It is noted that the daily traffic volume forecasts along Moulton Parkway appear to indicate no change or a minor decrease in modelled traffic volumes in the future conditions. This change is a function of the addition of the San Joaquin Hills Transportation Corridor (SJHTC) to the study area network.

As a result of the trips generated by this alternative, along with the general rise in ambient daily traffic from regional sources, construction of the following Master Plan of Arterial Highways improvements is warranted to provide for satisfactory levels of service:

- *Cabot Road* - improve to Primary arterial classification (four lane divided highway) between Paseo de Valencia and Oso Parkway.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

- *Paseo de Valencia* - improve to Major arterial classification (six lane divided highway) between El Toro Road and Laguna Hills Drive.
- *Lake Forest Drive* - improve to Major arterial classification (six lane divided highway) west of the I-5 freeway.
- *Ridge Route Drive* - improve to Secondary arterial classification (four lane undivided highway) between Santa Vittoria Drive and Moulton Parkway.

With these improvements, the arterial segments are forecast to operate within their designated capacity values, with the exception of La Paz Road east of Moulton Parkway, which will operate with a forecast volume to capacity (v/c) ratio of 1.01.

Employment

The City will experience a small increase in net employment under this alternative. A small decrease in office employment is expected to be replaced with new industrial/business jobs. Retail employment will remain stable, with increased new jobs generated by the Laguna Hills Mall expansion balanced by decreases in retail jobs resulting from the decline in existing commercial uses.

ALTERNATIVE 2

Population and Housing

Alternative 2 provides for the largest increase in population over the existing condition. A majority of the increase in population is due to the redesignation of the existing Laguna Village mobile home park to High Density residential, allowing the development of additional units. The balance of the new housing proposed in Alternative 2 is located in areas previously designated for other non-residential uses. These areas specifically include the redesignation of the existing Moulton Water District facility in the southern portion of the General Plan study area for Medium Low Residential development, and the development of the existing vacant school site within the Nellie Gail development as Estate Residential development. These changes translate into an increase of 601 new housing units and 1,494 new residents at build out of the General Plan study area (see Table V-1).

Land Use

Although Alternative 2 provides for a net increase, of only in the total amount of residential land, the number of new units is expected to increase by 601 when compared to the existing conditions. This increase represents an increase in allowable net densities as described in the General Plan designations for this alternative. Alternative 2 also includes a Village Commercial land use designation, which is not included in the other two alternatives (see Table V-1). This designation incorporates a mixed-use approach to the area immediately around the Laguna Hills Mall and Saddleback Memorial Hospital, allowing for a broad range of commercial and office uses in a master planned environment.

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Alternative 2 also has the largest amount of Mixed Use land use of the three alternatives, a majority of which occurs in the City's sphere of influence area. This alternative proposes an overall shift in the land use from existing business park to a more retail commercial and office type of development. Commercial development in the rest of the City would be either community or freeway oriented, depending on a specific location. Rather than having a neighborhood focus as in Alternative 1, the Community Commercial land use designation would serve the retail needs of the entire community. Other commercial areas would be oriented toward regional traffic traveling through the area or along the freeway corridor (see Table V-1). Public service and facilities impacts associated with the build out of land uses proposed in Alternative 3 are indicated in Table V-1.

Transportation

The mix of land uses in Alternative 2 will generate approximately 375,200 daily trips, a 63 percent increase over the existing 230,300 daily trips. The annexation area represents an 81 percent increase in trips, from 63,000 to 114,100, while the future land uses in the current incorporated area will generate 261,100 daily trips. This is an increase of 56 percent over the existing City trip generation of 167,300 daily trips.

The forecast traffic volumes of Alternative 2 are similar to Alternative 1 with the exceptions of the Mall area, Lake Forest Drive and Alicia Parkway, all of which will experience moderate increases in daily traffic as compared to Alternative 1.

The improvements to Paseo de Valencia, Cabot Road, Lake Forest Drive and Ridge Route Drive called for in the Alternative 1 scenario are warranted in Alternative 2. Similar to the Alternative 1 scenario, Moulton Parkway forecasts appear to be affected by the introduction of the SJHTC to the circulation network, and warrant further analysis and refinement.

With the increase in daily traffic volumes and the improvements to the specific arterial segments, various links will approach congested conditions. These include Paseo de Valencia between El Toro Road and Los Aliso Boulevard (v/o ratio of 0.89), Alicia Parkway near the I-5 freeway (v/c ratio of 0.89), La Paz Road near Moulton Parkway (v/c ratio of 0.95), and La Paz Road between Aliso Hills Drive and Valencia (v/c ratio of 0.94).

Employment

There will be a substantial growth in employment as the City adds nearly 2,900,000 square feet of space (beyond the proposed Laguna Hills Mall expansion) to the City's commercial area. Additional new office jobs are also anticipated. With the loss of industrial/business jobs in the area, the net gain in employment would approximate 10,000 jobs. Diversity of the economic base will be narrowed, however, as the industrial/business sector of the economy is replaced with commercial and office related businesses.

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ALTERNATIVE 3

Population and Housing

Alternative 3 provides for an increase of 343 new dwelling units and 772 residents at build out, representing the second largest increase in population for all alternatives. This is due to an increase in the allowable density of the Laguna Village Mobile Home Park in the City's sphere of influence. The remainder of the residential land uses in Alternative 3 are comparable to Alternative 1 and slightly less than Alternative 2 in terms of acreage and density (see Table V-1).

Land Use

Since the focus of this alternative is to maximize the amount of income generating land uses, both Freeway commercial and Regional Commercial represent the largest percentage (nearly 43 percent) of commercial and office land uses. As is the case in Alternative 2, land uses in the City's sphere of influence are designated for Mixed Use development. This alternative also proposes an overall shift in the existing land use from business park uses to a more retail commercial and office type of development, reflecting the overall shift from office development to commercial and mixed use development (see Table V-1). Commercial development along the freeway corridor would be designated as Freeway Commercial and would focus on a wider retail market area than Alternatives 1 or 2. A clear distinction has been made between the levels of commercial uses in this alternative. Commercial development along the freeway and at the freeway interchanges has been designated for either Freeway Commercial or Regional Commercial land uses.

Balanced with the desire to maximize income generating uses, Alternative 2 proposes to commit nearly 15 percent or 615 acres of the total land use within the General Plan study area to Parks or Open Space. Public service and facilities impacts associated with the build out of land uses proposed in Alternative 3 are indicated in Table V-1.

Transportation

As a result of the implementation of the Alternative 3 land use mix, approximately 412,200 daily trips will be generated within the City and the annexation area, a 79 percent increase over the existing 230,300 daily trips. The annexation area represents a 130 percent increase in trips, from 63,000 to 144,900, while the future land uses in the current incorporated area will generate 267,300 daily trips. This is an increase of 60 percent over the existing corporate trip generation of 167,300 daily trips.

Daily traffic volumes will increase appreciably over the existing condition and either of the other two alternative land use proposals. Major increases in daily traffic activity are forecast along Alicia Parkway and Avenida de la Carlota and throughout the annexation area. Traffic volumes on other major routes, such as La Paz Road and Oso Parkway, will remain virtually unchanged from the other two alternatives.

The improvements to Paseo de Valencia, Cabot Road, Lake Forest Drive and Ridge Route Drive called for in the Alternative 1 and 2 scenarios are warranted in Alternative 3. Similar to Alternative 1, Moulton Parkway forecasts are affected by the introduction of the SJHTC to the circulation network, and warrant further analysis and refinement.

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Alicia Parkway and Avenida de la Carlota will experience the greatest changes in this alternative and, based on the daily volume to capacity ratios, will operate near or over capacity. La Paz Road near Aliso Hills Road is also forecast to carry a volume of daily traffic approaching the capacity of the facility. All other arterial segments are forecast to operate below the capacity thresholds outlined in the General Plan.

Employment

There will be a substantial growth in commercial sector employment as the City adds nearly 5,800,000 square feet of space (beyond the proposed Laguna Hills Mall expansion). With the loss of industrial/business jobs in the area, the net gain in employment would approximate 20,000 new jobs. Office jobs are expected to remain stable.

Diversity of the economic base will, however, be severely narrowed as the industrial/business section of the economy is replaced with commercial businesses and office uses decline in proportion to commercial uses.

VI. CUMULATIVE IMPACTS

VI. CUMULATIVE IMPACTS

Section 15130 of CEQA requires that EIRs include a discussion of the potential cumulative impacts of a proposed project. Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period of time.

Earlier sections of this Master EIR focused on the environmental impacts of growth and change in the Laguna Hills General Plan study area. However, the City is part of a larger region that is also growing and changing. This regional growth has broader implications on some of the environmental issues previously discussed. The analysis presented in this section quantifies specific environmental impacts of cumulative development within the City and its study area. This section attempts to outline the overall environmental effects of regional growth, consistent with the scope and intent of a Master EIR.

The evaluation of cumulative impacts contained in this portion of the Master EIR is based upon several factors, including growth projections prepared by the Southern California Association of Governments (SCAG), and data from the 1990 census. These growth projections are expected to occur between the years 1990 and 2010; more long-term growth projections are generally unavailable and would be so speculative that their value in forecasting environmental impacts is questionable. Such analysis is in compliance with CEQA Guidelines Sections 15130(B), which permits, "A summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or area-wide conditions..." and 15130(b)(3), which requires "A reasonable analysis of the cumulative impacts..." The areawide or subregional setting analyzed within this document will consist of the County of Orange, including all 29 incorporated cities and unincorporated County land. This area is defined, for the purposes of this Master EIR, as the Laguna Hills Cumulative Impact Project Area.

In this section, where possible, the level of the cumulative impact is quantitatively evaluated using the generation factors presented earlier in the alternatives analysis section. In some areas (e.g., mineral resources), a quantitative calculation is not possible, and the level of cumulative impact is evaluated qualitatively.

A. CUMULATIVE IMPACT AREA

Listed in Table VI-1 are the projected growth and yearly average increases for employment opportunities, housing units, and population increases within the Laguna Hills cumulative impact area. As noted above, the Laguna Hills cumulative impact area has been defined as the County of Orange, including incorporated and unincorporated areas.

Cumulatively, as projected by SCAG, approximately 659,848 people will be added to the cumulative impact area over a 20 year period (1990-2010) or 32,992 people per year, for a total population of 3,070,520 in the cumulative impact area. Of this total, build out of the General Plan study area could contribute approximately 811 people, or 41 persons per year between 1990 and 2010.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table VI-1
Laguna Hills Cumulative Impact Area Growth Forecast

	1990	2000	2010	Growth Increase (1990-2010)	Yearly Average Increase
Population	2,410,672	2,840,338	3,070,520	659,848	32,992
Housing	826,986	939,580	1,016,560	189,574	9,479
Employment	1,296,750	1,625,187	1,898,187	601,437	30,072

Source: Southern California Association of Governments, 1993.

Cumulatively, as projected by SCAG, approximately 189,574 housing units will be added to the cumulative impact area over a 20 year period (1990-2010) or 9,479 housing units per year. Of this total, the General Plan study area during the same period could contribute approximately 234 units.

Cumulatively, approximately 601,437 jobs will be added to the cumulative impact area over 20 year period (1990-2010), or 30,072 jobs per year. General plan build out within the study area could produce an increase in employment of approximately 12,975 employees or approximately 649 new jobs per year averaged over 20 years.

B. CUMULATIVE IMPACTS ANALYSIS

The magnitude of the impacts that will result from development of the area described above, where quantifiable, are indicated in Table VI-2, Laguna Hills Cumulative Impact Area - Impact Calculations Year 2010. In general, the 29 cities making up the cumulative impact area for this Master EIR have a relatively large population, which will require adequate housing and an appropriate distribution of land use, and which will also demand a considerable level of municipal facilities and services.

Table VI-2
Cumulative Impact Area Comparison
Impact Calculations Year 2010 Laguna Hills

	Laguna Hills General Plan Impacts ¹	Cumulative Impact Area Impacts ^{2,3}
Housing	10,745	1,016,560
Population	29,111	3,070,520
Employment	12,975	1,898,187
Water Consumption (gallons per day)	5,385,535	557,478,075 ⁴
Waste Water Generation (gallons per day)	4,506,255	464,277,450 ⁴
Solid Waste (tons per day)	65.4	6,752

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Table VI-2
Cumulative Impact Area Comparison
Impact Calculations Year 2010 Laguna Hills

	Laguna Hills General Plan Impacts ¹	Cumulative Impact Area Impacts ^{2,3}
Electrical Demand (Kwh per day)	672,557	70,181,475
Natural Gas Demand (cubic feet per day)	2,677,960	274,977,150

Source: Planning Network, 1993

¹ Based upon General Plan build out as cited in this Master EIR; see Table III-1.

² Growth projections provided by SCAG, 1993.

³ All impact calculations have been performed using the generation rates indicated in Table V-I in this Master EIR.

⁴ Square footage of commercial and industrial uses is not known for the cumulative impact area; therefore, the water and wastewater totals are based on population (i.e., residential uses) only. Thus, these totals are somewhat low.

The scale of cumulative development in the Laguna Hills area is relatively small, since the percentage of cumulative impacts attributable to Laguna Hills averages below one-tenth of one percent of the total cumulative impact area. Therefore, the majority of cumulative impact mitigation will be necessitated by other cities within the cumulative impact area. Appropriate measures applied by each of the individual cities in the cumulative area can mitigate most of the impacts to a level of insignificance.

Such mitigation may consist of, but is not limited to, the implementation of measures to ensure an adequate housing mix, to provide adequate infrastructure, facilities, and services, and to protect citizens against environmental hazards such as seismic events, floods, and noise. Impacts that can be mitigated to below a level of significance are indicated in Table VI-3, Significance of Cumulative Impacts.

Only three impacts are considered to be significantly adverse at a cumulative level: circulation, air quality, and noise. In each of these cases, the imposition of all mitigation measures will not reduce the level of impacts to insignificance; for example, the amount of traffic on the regional circulation system will likely continue to exceed acceptable levels of service. Similarly, the entire cumulative impact area is currently experiencing poor air quality, and even if all of the targets in the 1991 Air Quality Management Plan are met, the State standards for ozone and PM₁₀ will not be achieved until after 2010. Existing land uses will be impacted by future roadway noise increases along major arterials within the City, i.e., Alicia Parkway, Moulton Parkway, and Paseo de Valencia.

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table VI-3
Significance of Cumulative Impacts

Issue	Insignificant	Significant but Mitigatable	Significant Adverse
Population	•		
Housing	•		
Land Use		•	
Growth Management		•	
Community Design/Aesthetics	•		
Circulation and Transportation			•
Infrastructure	•		
Educational Facilities		•	
Parks and Recreation		•	
Fire Prevention and Suppression	•		
Police Services and Crime Prevention	•		
Emergency Services and Facilities	•		
General City Facilities and Services	•		
Open Space		•	
Air Quality			•
Biological Resources		•	
Energy Resources		•	
Water Resource		•	
Mineral Resources	•		
Historic Resources	•		
Geology and Seismicity		•	
Stormwater Management and Flooding		•	
Noise			•
Hazardous Materials	•		
Airport Hazards Management		•	

Source: Planning Network, 1993.

VII. GROWTH INDUCING IMPACTS

VII. GROWTH INDUCING IMPACTS

By its very nature, the City of Laguna Hills General Plan identifies how growth may occur in the City, and provides a plan to manage growth. Thus, in preparing the General Plan document the City of Laguna Hills recognizes that some change will occur in the City. It is the purpose of the General Plan to permit growth to occur in the fashion deemed desirable by the City, and to establish measures to mitigate the effects of this growth. In these ways, the Laguna Hills General Plan will induce growth in the community.

Implementation of the Laguna Hills General Plan will permit the construction of appropriate residential, commercial, and industrial projects within the City that are consistent with the General Plan, resulting in the identified population and employment increases.

Plans for improvements to infrastructure and public services consistent with the General Plan will facilitate growth as identified by the document by eliminating existing or potential constraints on development. Potential growth inducing improvements to infrastructure, although slight, may include the extension of water, sewer, electrical, and natural gas service to new areas or the expansion of capacity in existing service lines; securing supplemental water resources; the removal of lands from existing floodplains; and the expansion of roadway capacity, allowing further development. Expansion of public services will also remove existing or potential constraints on development, encouraging growth to occur that might not otherwise be possible.

The land use plan proposed will help preserve a significant amount of open space lands, and proposes the least change from existing development patterns within the City. Therefore, the growth inducing effect of the General Plan will not be significantly adverse. In fact, to the degree that the General Plan provides a framework to implement the goals, objectives and desires of the community, the General Plan can be considered to have a significant beneficial impact on the City in terms of inducing growth.

**VIII. SIGNIFICANT
UNAVOIDABLE
ENVIRONMENTAL EFFECTS**

VIII. SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS

Implementation of the Laguna Hills General Plan will result in significant unavoidable environmental effects, and it is the purpose of the General Plan Master EIR to identify these effects. While many of these effects can be reduced, the implementation of the General Plan will still result in some environmental effects that cannot be fully mitigated. The City of Laguna Hills recognizes that these effects will occur, and chooses to accept them as a cost of growth. In general, these consist of the following:

- An increase in traffic and noise within the City and sphere of influence. The proposed land use plan could generate a maximum of 274,042 vehicle trips and 2,340,318 vehicle miles per day at build out. This level of traffic will increase congestion and noise levels throughout the City. As traffic volumes increase, congestion may result at restricted intersections, especially at peak times.
- An increase in the amount of recreation land, police, and fire service needed within the City. For further discussion, see the appropriate sections of this report.
- A commitment of approximately 3,480 acres of land to suburban and rural uses, along with approximately 600 acres for open space and recreational uses.
- Construction of permanent public facilities (water, sewerage, roadways, electricity, natural gas, drainage, and telephone) improvements associated with new development implemented consistent with the General Plan.
- The amount of water consumed within the City will increase to 5,385,535 gallons per day under the proposed land use plan. This will cause an attendant increase in the amount of wastewater produced. This will create a need to secure sufficient water resources to support build out of the General Plan.
- Decrease in the supply of non-renewable resources, such as fossil fuels for vehicles or to generate electricity.
- An increase in local and regional air pollutants, due to increased emissions from mobile and point source pollutants. Build out of the proposed land plan will eventually generate 22,091 pounds of various air pollutants each day. For further discussion, see Appendix B in this report and the Air Quality Section of the Environmental Resources Element.

**IX. RELATIONSHIP
BETWEEN LOCAL
SHORT-TERM USES OF
MAN'S ENVIRONMENT AND
THE MAINTENANCE AND
ENHANCEMENT OF
LONG-TERM
PRODUCTIVITY**

**IX. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF
MAN'S ENVIRONMENT AND THE MAINTENANCE AND
ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

Development within the City of Laguna Hills will be consistent with the General Plan. This plan for future development is in large part based on a balance between immediate and short-term considerations versus the long-term options available to future generations.

In general, this balance will result from the commitment of land and other renewable and non-renewable resources, including short-term and long-term use of building materials and fossil fuels. The uses allowed under the General Plan will consume various amount of these resources. For example, land development for households and businesses consumes additional water, energy, and fossil fuels while providing housing and jobs. If the land were left as open space, it would not consume additional water, energy, or fossil fuels, but likewise would not provide additional housing or jobs. Therefore, the General Plan becomes a short-term and long-term management plan for these various resources.

A. WATER

The General Plan establishes a long-term commitment of water resources to various land uses. It determines policies as to how particular open lands will be preserved or enhanced, compared to encouraging urban and rural residential uses that may have different consumption patterns. However, to the degree that the General Plan commits land for specific types of uses in specific locations, accurate Master Plans for the provision of infrastructure can be developed to provide adequate service. This contributes to the long-term efficiency of resource use.

A major goal of the General Plan process is to determine priorities for beneficial uses, and to formulate and implement strategies to manage limited resources, especially non-renewable resources. Specific policies in the General Plan can also determine consumption patterns of various resources by developing and implementing conservation policies, such as those contained in the Open Space and Conservation Element.

Although water can be considered a renewable resource, its availability, especially the available supply (and its quality) during periods of drought or peak use, makes it a critical (limiting) resource in planning land uses within Laguna Hills.

B. BUILDING MATERIALS

Availability of aggregate resources, primarily sand and gravel, and other building material has been identified as a major issue affecting long-term development throughout the State. Aggregate resources are vital to the construction of buildings and infrastructure, which requires concrete, asphalt, sand, riprap, or similar products. Although the study area is rich in aggregate resources, current estimates of growth in the region may outpace the development of local resources. As development increases, therefore, the need for such resources both in the study area and in surrounding cities will also increase.

C. FOSSIL FUELS

The potential for long-term shortages of fossil fuels such as petroleum products, natural gas, and coal is a well documented local, State, and national issue. As supplies of these resources are consumed, the amount available to future generations is reduced, directly affecting the energy related options available to future generations. As with aggregate resources, use of fossil fuels is based on short-term economic considerations; other sources of energy are relatively more expensive and thus encourage the use of non-renewable fuels.

Within the City, increased use of fossil fuels will result from temporary construction activities, including use of construction vehicles and local congestion due to construction activity within public roadways (from increases in traffic congestion). In addition, development within the City will also entail increases in trip distances, resulting in increased consumption of fossil fuels. Development of added residential and commercial areas will also permanently increase consumption of fossil fuels for heating and electricity.

**X. SIGNIFICANT
IRREVERSIBLE
ENVIRONMENTAL CHANGES**

X. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The preparation and subsequent adoption of the City of Laguna Hills General Plan Elements are intended to guide the City's future. To accomplish this goal, the General Plan may establish trends that may result in irreversible changes that will have a significant cumulative impact on the environment.

In general, these trends result from the establishment of land use designations that encourage specific types of land uses. As build out of the City consistent with the General Plan occurs, the possibility of revising land use designations is decreased, although increase in development intensity may be possible (such as through General Plan Amendments and redevelopment).

Thus, implementation of the General Plan will encourage the orderly establishment of land uses in various areas of the City. This will limit the ability of the City to readily change the course of its future.

In addition, since increases in development (for instance, from rural residential to single family residential) are easier to accomplish than decreases (which may involve removal of existing structures in built out areas), future updates to the General Plan will be limited in their ability to provide expanded areas of lower land use intensities.

**XI. REFERENCES AND
DOCUMENTS USED IN
PREPARATION OF THE EIR**

**XI. REFERENCES AND DOCUMENTS USED IN
PREPARATION OF THE EIR**

A. DOCUMENTS USED

City of Laguna Hills Master Plan of Parks and Recreation, RJM Design Group, Spring 1993.

City of Laguna Hills Community Profile, The Planning Network, 1993.

City of Laguna Hills Draft General Plan, The Planning Network, 1993.

County of Orange, Rossmoor Business Park Final EIR, Rossmoor Partners L.P., 1991.

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South Coast Air Quality Management District, Air Quality Handbook for Preparing Environmental Impact Reports, April, 1987.

Southern California Association of Governments, Draft Air Quality Management Plan, 1990.

San Joaquin Hills Transportation Corridor Agency, County of Orange, Final EIR/EIS, San Joaquin Hills Transportation Corridor(Route 73), April 1991.

B. PERSONS, ORGANIZATIONS AND AGENCIES CONSULTED

County of Orange

<i>EMA/Transportation Planning Division</i>	Bob Peterson
<i>Fire Department</i>	Bernie O'Neil
<i>Sheriff-Coroner Department</i>	Tom McCarthy
<i>Integrated Waste Management Department</i>	Charles Niederman

Others

<i>Dewey's Disposal</i>	Kent Cheese
<i>El Toro Water District</i>	Dennis Cafferty
<i>Pacific Bell</i>	Ron Rueter
<i>Saddleback Valley Unified School District</i>	Marcia L. Birch
<i>Southern California Gas Company</i>	R.B. Aarvig
<i>Southern California Edison</i>	Doris E. Emery
<i>Orange County Transit District</i>	Linda Miller
<i>Aliso Water Management Agency</i>	William P. Becker
<i>City of Laguna Niguel</i>	Robin Putnam
<i>Moulton Niguel Water District</i>	Carlo Habash
<i>United States Marine Corps, Community Plans and Liaison Officer</i>	L.R. Fuchs, Jr.
<i>The Atchison Topeka and Santa Fe Railroad Company Manager of Special Projects</i>	Roy V. Ketring III

XII. RESPONSES TO COMMENTS

RESPONSE TO COMMENTS

**CITY OF LAGUNA HILLS GENERAL PLAN
MASTER ENVIRONMENTAL IMPACT REPORT**

June 16, 1994

Prepared for:

*City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, California 92653*

Prepared by:

*LSA Associates, Inc.
1 Park Plaza, Suite 500
Irvine, California 92714
(714) 553-0666
LSA Project #CLH401*

TABLE OF CONTENTS

	PAGE
1.0 RESPONSES TO COMMENTS MADE BY THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)	1-1
2.0 RESPONSES TO COMMENTS MADE BY THE GOLDEN RAIN FOUNDATION OF LAGUNA HILLS	2-1
3.0 RESPONSES TO COMMENTS MADE BY TRANSPORTATION CORRIDOR AGENCIES	3-1
4.0 RESPONSE TO COMMENTS MADE BY THE CITY OF MISSION VIEJO	4-1
5.0 RESPONSE TO COMMENTS MADE BY THE CITY OF LAKE FOREST	5-1
6.0 RESPONSE TO COMMENTS MADE BY THE UNITED STATES MARINE CORPS	6-1
7.0 RESPONSE TO COMMENTS MADE BY THE COUNTY OF ORANGE	7-1
8.0 RESPONSE TO COMMENTS MADE BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION	8-1
9.0 RESPONSES TO COMMENTS FROM THE AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY	9-1
10.0 RESPONSE TO COMMENT MADE BY THE GOVERNOR'S OFFICE OF PLANNING AND RESEARCH	10-1

ERRATA INFORMATION



**South Coast
AIR QUALITY MANAGEMENT DISTRICT**

21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (909) 396-2000

April 28, 1994

MAY 18 1994

Mr. Michael Thiele
Planning Director
25201 Paseo De Alicia, Suite 150
Laguna Hills, CA 92653

Dear Mr. Thiele:

Subject: Environmental Impact Report for the Proposed City of Laguna Hills Project

SCAQMD# ORC940421-01

As a responsible agency, the South Coast Air Quality Management District (SCAQMD) reviews and analyzes environmental documents for projects that may generate significant adverse air quality impacts or are regionally significant. The SCAQMD is also responsible for advising lead agencies in addressing and mitigating potential adverse air quality impacts caused by projects (Health and Safety Code Section 40412).

Utilizing the information in the SCAQMD April 1993 CEQA Air Quality Handbook (CEQA Handbook) will assist you in your discussions with local decision makers and ensure that you have adequately addressed the potential air quality impacts of your project. The CEQA Handbook will be updated periodically, to assist your staff in evaluating air quality impacts using the most current information available relative to air quality impacts.

SCAQMD-1

The SCAQMD staff is available to answer any questions you may have regarding the use of the CEQA Handbook. Please feel free to contact me at (909) 396-3054 or Shalini George at (909) 396-3090.

Sincerely,

Steve Smith, Ph.D.
Program Supervisor
Local Government -CEQA

SS:SG

(EIRND)

1.0 RESPONSES TO COMMENTS MADE BY THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)

AQMD-1

The SCAQMD April 1993 CEQA Air Quality Handbook was used during the development of the Laguna Hills General Plan and Master Environmental Impact Report.

GOLDEN RAIN
Foundation
of LAGUNA HILLS



MAY 25 1994

May 23, 1994

CITY OF LAGUNA HILLS

Bruce Channing
City Manager
City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, CA 92653

Dear Mr. Channing:

The Golden Rain Foundation of Laguna Hills has reviewed a copy of the City of Laguna Hills General Plan and Draft Master Environmental Impact Report. The Board has the following comments:

URBAN VILLAGE AREA (II-13, II-15, II-17)

Throughout the General Plan, references are made to what has been called as an urban village encompassing the Laguna Hills Mall and surrounding lands. The General Plan calls for an intensification of land use. The Golden Rain Foundation does not object to the concept but respectfully requests that the City of Laguna Hills establish a policy which mandates that intensification will be allowed only after infrastructure improvements have been built to facilitate the additional burden placed upon them.

GRF-1

WIDENING OF PASEO DE VALENCIA (IV-1, IV-2, VII 30)

The Golden Rain Foundation of Laguna Hills is concerned about the Los-E forecast for Paseo de Valencia. Due to the General Plan calling for an intensification of land use around the Laguna Hills Mall, the Golden Rain Foundation Board concurs with the finding that Paseo de Valencia will need to be widened (or restriped) to its ultimate six lane major arterial designation. The GRF Board believes the General Plan should be revised to include a specific statement that the City of Laguna Hills will install appropriate noise mitigation measures for residential units in Leisure World Laguna Hills along Paseo de Valencia.

GRF-2

GATEWAYS (VII-47)

The Golden Rain Foundation Board supports the development of city gateways and looks forward to working with Laguna Hills city staff on design of gateways leaving the City of Laguna Hills and entering into the Leisure World area.

GRF-3

630-05

2.0 RESPONSES TO COMMENTS MADE BY THE GOLDEN RAIN FOUNDATION OF LAGUNA HILLS

GDRN-1

Although the comment deals primarily with land use issues and does not raise any specific environmental issues, it will be addressed here for clarification. As is stated in the Laguna Hills General Plan, the Laguna Hills Urban Village concept specifically recognizes that traffic and congestion are the primary limiting factors in defining a maximum development intensity for the General Plan Urban Village area. The Draft General Plan Land Use text regarding the Urban Village therefore focuses on establishing traffic generation and its effect on surrounding intersections as the primary criteria on which to base future intensification. Equally important, the General Plan includes mitigation measures within the Development Review section of the General Plan Implementation and Monitoring Program (pages VII-3 through VII-35 of the General Plan) that ensure appropriate public facilities are built to facilitate the potential additional effects of all new development or redevelopment projects. Such mitigation measures would apply to all new development in the City, including projects proposed within the Urban Village.

GDRN-2

The General Plan Implementation and Monitoring Program includes mitigation measures for noise impacts caused by increases in roadway traffic volume as part of the Development Review Program (see pages VII-30 through VII-35 of the General Plan Implementation and Monitoring Program). This implementation program ensures that any increase in noise associated with the widening of Paseo de Valencia would prompt the City, or other responsible party, to provide an acoustical analysis and appropriate mitigation as part of any widening project.

GDRN-3

The City looks forward to working with the Golden Rain Foundation and residents of Leisure World in an effort to enhance community image through the creation of City gateways.

San Joaquin Hills
Corridor Agency

Foothill/Eastern
Corridor Agency

Chairman:
Patricia Bates
Laguna Niguel

Chairman:
Scott Diehl
San Clemente



Mike
MAY 24 1994

TRANSPORTATION CORRIDOR AGENCIES

William Woollett, Jr.
Chief Executive Officer

Walter D. Krautzen
Executive Vice President
Finance & Administration

Gregory G. Hank
Executive Vice President
Design & Construction

May 20, 1994

Mr. Michael Thiele
Planning Director
City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, CA 92653

SUBJECT: CITY OF LAGUNA HILLS GENERAL PLAN AND MASTER EIR

Dear Mr. Thiele:

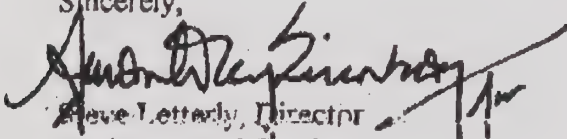
Thank you for providing the Transportation Corridor Agencies with the opportunity to review and comment on the subject document. Staff has reviewed the draft General Plan and Master EIR and has the following comment:

Please clarify under the Circulation and Transportation Section of the MEIR, page IV-F-8, that the San Joaquin Hills Transportation Corridor (SJHTC) is currently under construction. Completion of the SJHTC is scheduled for March of 1997.

TCA-1

If you have any questions regarding this comment, please contact Laura Coley Eisenberg of my staff at (714) 513-3482.

Sincerely,


Steve Letterly, Director
Environmental Services

201 E. SANDPOINTE AVE., SUITE 200, SANTA ANA, CA 92707 714/436-9800 FAX 714/436-9848

Members: Anaheim • Costa Mesa • County of Orange • Dana Point • Irvine • Lake Forest • Laguna Hills • Laguna Niguel • Mission Viejo • Orange • Newport Beach • Santa Ana • San Clemente • San Juan Capistrano • Tustin • Yorba Linda

3.0 RESPONSES TO COMMENTS MADE BY TRANSPORTATION CORRIDOR AGENCIES

TCA-1

The comment in regard to the San Joaquin Transportation Corridor is noted. The first two paragraphs on page IV-F-8 of the Draft Master EIR are deleted, and replaced with the following text:

"Within the City of Laguna Hills, access to SR-73 is planned at Moulton Parkway and La Paz Road. Exclusive access is planned at Laguna Hills Drive and Pacific Park Drive, between Moulton Parkway and La Paz Road. The San Joaquin Hills Transportation Corridor is currently under construction, with completion of the project scheduled for March of 1997."

Susan Withrow
Mayor

Joseph D. Lowe
Mayor Pro Tem

Robert David Breton
Councilmember

Sharon Cody
Councilmember

William S. Craycraft
Councilmember



City of Mission Viejo

June 3, 1994

Mr. Michael Thiele
Planning Director
City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, California 92653

JUN 7 1994

Dear Mr. Thiele:

RE: City of Mission Viejo Comments on the City of Laguna Hills Draft General Plan and Draft Master Environmental Impact Report

The City of Mission Viejo appreciates the opportunity to review the City of Laguna Hills Draft General Plan and Draft Master Environmental Impact Report, and the courtesy of your department in meeting with representatives of the City of Mission Viejo on May 25, 1994 to respond to preliminary questions and issues on these documents.

As emphasized at the May 25, 1994 meeting, the focal point of our comments is twofold:

- 1) To understand the degree, if any, to which full development of the City of Laguna Hills General Plan Land Use Element could impact the transportation capacity and programmed transportation infrastructure of City of Mission Viejo streets and highways; and,
- 2) In order to fulfill the analysis identified in Comment 1 above, to request the City of Laguna Hills to revise the Master Environmental Impact Report (Master EIR) by including an assessment of four additional intersections in the General Plan traffic analysis, as listed below:
 - Los Alisos at Muirlands
 - Alicia Parkway at Muirlands
 - La Paz Road at Muirlands
 - Alicia Parkway/I-5 northbound ramps

CMV-1

As discussed on May 25, 1994, the General Plan documents for the City of Laguna Hills do not include any assessment of traffic demand generated by full buildout of the Land Use Element upon any arterial segments or intersections located outside the boundaries of the City of Laguna Hills. However, both the City of Laguna Hills and the City of Mission Viejo did recognize, in conjunction with the environmental process for the Laguna Hills Mall Renovation and Expansion

Mr. Michael Thiele
June 6, 1994
Page 2

process, that the levels of service of several intersections located in the City of Mission Viejo would be worsened by the additional trips generated by the Mall expansion. Thus, in conjunction with the citywide establishment of a Land Use Plan, it seems prudent to extend the boundaries of the study area intersections to include neighboring jurisdictions where traffic distribution patterns identify a potential for additional trips upon these intersections.

CMV-1
(CONT.)

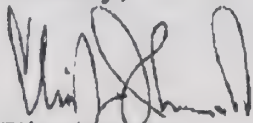
Our concern is further heightened by the provision in the Master EIR which allows subsequent, discretionary projects to be environmentally cleared under the "umbrella" environmental analysis of the Master General Plan EIR. If additional intersections in the City of Mission Viejo are not addressed in the Master EIR, the City of Mission Viejo would determine that the Master EIR is deficient in its capabilities to serve as an umbrella environmental clearance for subsequent discretionary projects. Further, the City of Mission Viejo would request, for those projects, that supplemental environmental analysis be conducted to include City of Mission Viejo intersections in traffic analyses and project mitigation, and further, that the City of Mission Viejo be advised of such projects upon submittal to allow for our review of the environmental documents.

CMV-2

In addition to these comments, the City of Mission Viejo has prepared a list of detailed, technical questions on the traffic components of the General Plan documents (Attachment 1). You will note that many of these issues were presented and discussed at the May 25, 1994 meeting.

The City of Mission Viejo appreciates the opportunity to review and comment on the draft General Plan documents for the City of Laguna Hills, and looks forward to reviewing revised documents which incorporate our comments. Should you desire further clarification on these issues, please feel free to contact Ms. Karen Verlaan of the Community Development Department or Mr. Dennis Wilberg of the Public Works Department.

Sincerely,



Clint Sherrod,
Department of Community Development
City of Mission Viejo

cc: City Manager
Planning Commission
Public Works Director
Karen Verlaan, Senior Planner

ATTACHMENT 1

City of Mission Viejo Technical Comments City of Laguna Hills General Plan and Draft Master Environmental Impact Report

In addition to the general comments outlined in the cover letter, this attachment serves to identify additional, technical questions derived from the City of Mission Viejo's review of the following documents:

- Land Use Chapter
- Circulation and Transportation Chapter
- Appendix A: Traffic Analysis

Land Use Chapter

1. Master EIR: Page I-13 states that "The Master EIR is intended to be used to focus subsequent environmental review on later projects to permit discussion solely on new effects that had not been known or considered before, thus reducing the need for environmental review at a later time, as the various goals and policies on the General Plan are implemented."

In reviewing the land use input to the General Plan preferred land use plan, there are areas where the input assumption is based upon a land use (i.e., industrial) which is characterized with a lower trip generation than an allowable land use in the Traffic Analysis Zone (i.e., office). This can create situations where a proposed development project can potentially have higher trip generating characteristics than that analyzed in the Master EIR.

CMV-3

Clarify how the "Master EIR" and its associated environmental assessment would be applied to address the environmental impacts of the proposed project that has a greater trip generating characteristics than that analyzed in the Master EIR, for areas other than the "Urban Village." Would a new environmental assessment be required?

2. Land Use Coordination: Page II-11 states that "The development of land surrounding Laguna Hills has created conflicts with adjacent jurisdictions. The coordination of land use issues that affect, or are affected by, development within Laguna Hills will be a major concern now and in the future."

In recognizing and concurring with this statement, please clarify the rationale for not including intersections east of Interstate 5 in the traffic analysis study area. The City of Mission Viejo requests an analysis of four additional intersections in the General Plan traffic study, as discussed in the cover letter. These intersections include:

CMV-4

- Los Alisos at Muirlands
- Alicia at Muirlands

- La Paz at Muirlands
- Alicia at Interstate 5 northbound ramps

CMV-4
(CONT)

3. North Laguna Hills Mixed Use/Business Park: Page II-15 states that the sphere of influence area is planned to transition from a business park and industrially oriented development, to a more office oriented, mixed use development.

Clarify why *Table C-2: Preferred General Plan Alternatives Land Use Summary* illustrates the General Plan land use assumptions for the sphere of influence area as predominately industrial in nature, with no mixed use or office development assumed. Further, how was this table used as the framework by which trip generation was established for the preferred general plan land use element? Could the trip generating characteristics for potential development, as allowed under future zoning, be greater than that analyzed in the Master EIR?

CMV-5

4. Laguna Hills Urban Village: Page 11-17 states that the maximum intensity of development in the "Village Commercial" land use designation is regulated by a "trip budget." Further, it states that "the maximum number of trips budgeted for each traffic zone may not be exceeded," as numerically specified on page II-20.

- a. Existing Development: Table II-2 identifies development intensity for existing/approved development for each Traffic Analysis Zone. For TAZ 613 and TAZ 618, the existing/approved intensity does not correspond to the intensity illustrated in *Table C-1: Existing Land Use Data Summary*.

CMV-6

Further, the existing ADT shown in each TAZ does not correspond to the ADT illustrated in *Table G: Existing LHTAM Primary Area Productions and Attractions*.

Please clarify the discrepancies.

- b. General Plan Development: Table II-2 identifies a maximum trip budget that has been allocated to each TAZ in the Urban Village area. Clarify how the maximum trip budget was established. The trips do not correspond to *Table G: Preferred General Plan LHTAM Primary Area Daily Trip Ends*.

CMV-7

- c. Trip Generation: In reviewing the maximum trips by TAZ for the "Urban Village," it is difficult to ascertain a traditional trip rate by square footage of each land use category. This is due to two factors:

- The LHTAM's use of socioeconomic data and productions and attractions to arrive at total trips; and,
- The lack of a maximum Floor Area Ratio or development intensity which corresponds to the maximum, allocated trips for each TAZ.

CMV-8

However, based upon the information presented in Table II-20 of the Land Use Element, there are two land use categories which seem to be significantly underestimated in terms of their trip generation potential:

- 1) Office development, which appears to approach 7 trips/1000 square feet, in comparison to the Institute of Traffic Engineer's (ITE) trip generation rate of 14 trips/1000 square feet for office development of 100,000 square feet; and,
- 2) Medical office development, which appears to approach 11-12 trips/1000 square feet, in comparison to ITE trip generation rates of 23 to 42 trips/1000 square feet.

CMV-8
(CONT.)

In both instances, the estimated trips in the Laguna Hills General Plan documents are 50% lower than that derived from using ITE trip generation rates.

Please clarify if the trip generation rates derived from the LHTAM socioeconomic model adequately assess the General Plan's transportation impact upon the circulation system.

CMV-9

Also, when specific development projects in the Urban Village are submitted after General Plan adoption, how will these projects estimate their trip generation? If they use traditional ITE trip generation rates, the City may wish to re-examine if the Urban Village trip budget allows for realistic development potential in each TAZ. For example, in TAZ 615, 578 daily trips are available for future development. If a development project for a medical office is submitted, which corresponds to existing land uses, the 578 trips would allow a 14,000 to 30,000 square foot facility, using ITE medical office trip generation ranges. Does this correspond to the available development potential in the TAZ?

CMV-10

Circulation and Transportation Chapter

5. Circulation System Reference Figures: It would greatly assist the reader if all streets identified in the Circulation and Transportation Chapter are labelled on each EIR Circulation System figure. Several streets, such as Los Alisos Boulevard, Laguna Hills Drive, Avenida de Carlota and Cabot Road, are discussed but not referenced in any of the figures.

CMV-11

Also, since Moulton Parkway is the one arterial which links the annexation area with the existing city boundaries, should not the figures illustrate the existing alignment of Moulton as extended and connected through the county-unincorporated area?

CMV-12

6. Moulton Parkway: Page IV-F-4 states that "currently, a study is under way to determine ultimate Super Street improvements to Moulton Parkway. The preferred roadway is six through lanes with multiple turn lanes at intersections."

CMV-13

If the study is underway, clarify the justification for categorizing the Moulton Parkway Super Street improvements as a committed project in the traffic analysis. Has the Moulton Parkway EIR improvement program been approved, and funding committed towards the improvement program? If so, clarify in the Master EIR narrative discussion.

CMV-13
(CONT.)

Also, what are the specific improvements called forth by the Moulton Parkway Super Street Program? The traffic analysis does not detail out this distinction.

7. Project Impacts: Table IV-F-3 on page IV-F-13 summarizes the level of service analysis performed for the proposed General Plan on the study area intersections located in the City of Laguna Hills, with the identification that the proposed General Plan land uses generating approximately 274,042 ADT for an increase of 44,440 trips over existing conditions.

CMV-14

The Draft EIR needs to clarify that the Intersection Capacity Utilization (ICUs) and the Levels of Service categories for General Plan buildout are based upon a series of transportation improvements which are not yet constructed or committed, but which are assumed in the traffic analysis. These include transportation improvements identified in the Moulton Parkway Super Street EIR, the Laguna Hills Mall Renovation and Expansion Plan EIR, and recommendations based on the General Plan modelling effort. Further, a comprehensive listing of each of the assumed, future improvements and their associated program for implementation should be included in Appendix A.

CMV-15

Also, the Draft EIR seems to jump from existing geometric conditions and associated ICU/LOS, to the General Plan buildout ICU/LOS based upon proposed intersection and arterial improvements. What is the ICU and LOS for each intersection in absence of these planned improvements?

CMV-16

8. Project Impacts Mitigation Measures: Page IV-F-14 states, under Mitigation Measure F.2, that "the intersection improvements shown on Table IV-F-3 of the Master EIR shall be constructed in conjunction with adjacent development."

CMV-17

Table IV-F-3 does not identify any listing of intersection improvements.

General Plan EIR Traffic Analysis: Appendix A

9. Page 5 of Appendix A identifies that the LHTAM model used a circulation network corresponding to Year 1990, which is the base year used by OCTAM II. This corresponds to the socioeconomic data set for which a Year 1990 total was established by the Board of Supervisors. Please clarify if the existing land use assumptions incorporated in Table C-1 is also based upon a 1990 timeframe.

CMV-18

10. Page 22 of Appendix A states that "Table K illustrates the existing and post-2010 General Plan buildout ICU values and levels of service at the study area intersections. The ICU worksheets are provided for information purposes as an attachment to this appendix."

CMV-19

There are no ICU worksheets for the ICUs resulting from existing development. They should be included in the Draft EIR appendix. Also, in what year were the counts conducted for the "existing development" ICUs? If conducted in a year other than year 1990, how was the traffic modeling results interpolated to match a year 1990 network and the existing land use assumptions (base year unknown).

CMV-19
(CONT.)

11. Page 11 of Appendix A states that "to disaggregate existing OCTAM zonal socioeconomic data into LHTAM zonal data, the existing land use data for the LHTAM zones was converted to socioeconomic data. The socioeconomic data for each of the LHTAM zones comprising a particular OCTAM zone was then normalized to the OCTAM control totals."

CMV-20

Prior to "normalizing" to the OCTAM control totals, what was the degree of difference between the OCTAM projections and the straight conversion of land use data into population and employment projections? For example, did the straight conversion process identify population and employment projections which were significantly different than the control totals identified in OCP-92? If so, how was this reconciled in the land use assumption input?

12. *Table E: Existing OCTAM Socioeconomic Data for LHTAM Primary Area* seems to contain an error in the listing and tabulation of Retail Employment and Total Employment for eight Traffic Analysis Zones. Specifically, TAZ 610, 615, 618, 626, 628, 629, 636, and 637 illustrate figures for Total Employment which are lower than the identified figures for Retail Employment.

However, Retail Employment is a sub-category of Total Employment. Thus, the number of employees in Total Employment will always be equal to or greater than the number of employees listed in Retail Employment. This, in turn, affects the cumulative number of employees for Retail and Total Employment identified in Table E.

CMV-21

Page 13 of Appendix A subsequently states that "in the traffic modelling, the OCTAM II trip table based on the socioeconomic data in Table E was factored to reflect trips generated by the actual socioeconomic data." If Table E is confirmed as incorrect in its tabulation of employment, how will this error carry over into the total trip generation calculation for existing development? Also, how will this impact the trip budget established for TAZ 615 and 618 in the Urban Village land use designation?

13. In comparing *Table E: Existing OCTAM Socioeconomic Data for LHTAM Primary Area*, with *Table F: Preferred General Plan LHTAM Primary Area Socioeconomic Data*, there are several TAZ where employment, at buildout, is significantly lower than existing conditions. Please clarify.

CMV-22

14. Table G identifies ADT for existing conditions. Table I identifies projected ADT resulting from implementation of the preferred General Plan. Even after taking into consideration the lower employment situation identified in Issue 13 above, there remains

CMV-23

several TAZ where the buildout ADT is significantly lower than existing ADT (i.e., TAZ 614 and 615). Please clarify how ADT would be lower for future versus existing conditions.

CMV-27
(CONT.)

15. Figure 4 identifies average daily traffic (ADT) volumes for key arterials in the study area. The City of Mission Viejo has reviewed the 1992 ADT for study area arterials which extend into the City of Mission Viejo, and has compared these volumes against the 1992/1993 traffic volumes of the City of Mission Viejo Traffic Flow Map. This review identified the following differences:

<u>Arterial</u>	<u>LHEIR ADT</u>	<u>CMV ADT</u>
Los Alisos	25,900 ADT	30,200 ADT
Alicia Parkway	46,100 ADT	51,500 ADT
La Paz	19,700 ADT	34,200 ADT
Oso Parkway	18,500 ADT	34,600 ADT

CMV-24

The City of Laguna Hills and City of Mission Viejo should confer to discuss and reconcile these differences.

16. The ADT denoted in *Table C-2: Preferred General Plan LHTAM Daily Trip Ends* for each of the Urban Village TAZs (TAZ 613 through TAZ 621) are higher than the trip generation budget identified for each TAZ in Table I.

- Which ADT value was modeled in the traffic analysis?
- Is the lower ADT that is identified in Table I a result of undesirable, projected traffic impacts which would result if the higher ADT values identified in Table C-2 were permitted?

CMV-25

17. Two intersections are identified at General Plan buildout to be failing: Moulton Parkway at La Paz and Moulton Parkway at Oso. Both these intersections are identified in existing conditions to operate better than LOS D. At buildout, the Draft EIR does not identify any improvement program to improve the LOS F condition. This should be discussed in the Draft EIR, since Moulton Parkway and Oso Parkway are both Major Arterials governed by the Measure M LOS D performance target, and Moulton Parkway is also a component of the CMP Highway System.

CMV-26

4.0 RESPONSE TO COMMENTS MADE BY THE CITY OF MISSION VIEJO

CMV-1

The purpose of conducting a traffic modeling effort and traffic analysis for the Laguna Hills General Plan is to adequately size the arterial street system within the City of Laguna Hills in order to accommodate the forecast land uses anticipated in the proposed Land Use Element. As such, the traffic analysis focused on the effects of traffic generated within the greater Orange County region, including the City of Laguna Hills, on the arterials and intersections within the city limits. In cases where the existing and planned circulation system could not accommodate the traffic generated by regional and local sources, additional circulation improvements are recommended with the goal of maintaining a citywide transportation system that maximizes freedom and safety of movement and maintains a balance between mobility, cost efficiency and the quality of life. This same method and scope of transportation analysis has been utilized in recent General Plan preparations and approvals in Mission Viejo and Lake Forest.

Based on discussion with Orange County Transportation Authority staff, the regional Congestion Management Program (CMP) agency, CMP requirements for analyses of impacts on regional facilities (i.e., CMP highways outside of Laguna Hills) do not apply to General Plans, since a General Plan is a policy document and not a specific development related approval document. There are no requirements to assess the circulation impacts of this policy document on facilities outside the jurisdiction of the City of Laguna Hills. The General Plan and EIR have not been modified to address the effects of Plan implementation on arterials and intersections outside the city limits.

The proposed General Plan does, however, include mechanisms to ensure that the circulation impacts of future individual development projects on local and regional roadways are evaluated and mitigated. The City of Laguna Hills shall prepare and adopt a traffic impact analysis (TIA) preparation manual as required on page VII-43 of the General Plan. The City shall participate in intergovernmental programs to coordinate circulation facilities as outlined on page VII-37 of the General Plan. The City has a stated strategy to maintain consistency with CMP and Growth Management Program requirements, which address the analysis of impacts on regional facilities (page IV-12 of the General Plan).

In addition Mitigation Measures (F2) and (F3) on page IV-F-14 of the Draft Master EIR state that "if determined by the City Engineer to be necessary to provide for adequate traffic flow, any individual

development may be required to provide off-site intersection improvements, subject to appropriate reimbursement agreements or other financial mechanisms to ensure that new development pays only its proportionate share for improvements." As has been demonstrated on previous projects within the City, this measure would apply to impacts created by the project both within and outside the City.

CMV-2

Mission Viejo's comment refers to use of the General Plan EIR as a Master EIR for subsequent projects. It is acknowledged that subsequent projects will be subject to the provisions of Measure M and the Orange County Congestion Management Program. The provisions of these programs require traffic impact analyses to be prepared for subsequent projects, evaluating traffic impacts, including intersection impacts. Analysis of the impacts that a subsequent project would create on Mission Viejo intersections will be required of those projects, subject to the provisions of Measure M and the Orange County Congestion Management Program.

In conformance with CEQA Sections 15063, 15072, and current City policy, the City of Laguna Hills will continue to consult with adjacent municipalities in an effort to identify any and all potential impacts early in the environmental review process. Such consultation will include projects within the City that have the potential of creating traffic impacts within the City of Mission Viejo and other adjacent jurisdictions.

CMV-3

The intended use of the Master Environmental Impact Report, along with its relationship to future environmental documentation, is discussed on pages I-3 through I-5 of the Master EIR. These sections provide criteria that will be used to determine whether additional environmental analysis is necessary for subsequent projects (see also Comment CMV-2).

CMV-4

The comment addresses the Draft General Plan and does not specifically raise substantive environmental issues. The comment will, however, be addressed here for clarification.

The statement referred to in the comment defines a general condition all cities face as individual land use projects are proposed,

analyzed and ultimately developed over time. In response to this general issue, the General Plan makes several references to Laguna Hills' commitment to work with adjacent municipalities to solve regional growth and traffic concerns (see page II-23 "Regional coordination and Cooperation section of the Land Use Element, and the Intergovernmental Coordination and Community Involvement Program on page V-II-36 of the General Plan).

As stated in the response to comment CMV-2, the purpose of conducting a traffic modeling effort and traffic analysis for the Laguna Hills General Plan is to adequately size the arterial street system within the City of Laguna Hills in order to accommodate the land uses anticipated in the proposed Land Use Element. As such, the traffic analysis focused on the effects of traffic generated within the greater Orange County region, including the City of Laguna Hills, on the arterials and intersections within the city limits. In cases where the existing and planned circulation system could not accommodate the traffic generated by regional and local sources, additional circulation improvements are recommended with the goal of maintaining a citywide transportation system that maximizes freedom and safety of movement and maintains a balance between mobility, cost efficiency and the quality of life. This same method and scope of transportation analysis has been utilized in recent General Plan preparations and approvals in the cities of Mission Viejo and Lake Forest.

Therefore, the General Plan and EIR have not been modified to address the effects of Plan implementation on arterials and intersections outside the city limits.

CMV-5

As originally envisioned, the sphere of influence area is proposed to be comprised of mixed use/business park land uses. Other commercial support land uses are allowed under the proposed land use designation; however, the predominant land use will be light industrial/business park. Therefore, trips were generated at the industrial socioeconomic data (SED) conversion rates. It is noted that the *ITE Trip Generation Manual*, 5th Edition, indicates 2.0 employees per 1,000 square feet of industrial use. Therefore, the 2.5 employees per 1,000 square feet is somewhat greater than the ITE conversion.

Nonetheless, the SED conversion rate for the majority of the sphere area has been modified from 2.5 to 3.0 employees per 1,000 square feet and modeled in response to the comment. This modification reflects the incorporation of a greater degree of support commercial uses in the land use mix. Therefore, trips generated and assigned to

the local street system have been increased to account for greater employment in the sphere of influence area. The resulting daily traffic volume estimates are indicated in the revised figures included as attachments to these responses, and the ICU calculations and resultant levels of service for the study area intersections within the sphere area are presented below. Intersection geometrics have not changed from the Master EIR analysis.

General Plan Sphere of Influence Intersection Level of Service Analysis

Intersection Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
1. Avenida de la Carlota/El Toro Road	0.58	A	0.75	C
2. Paseo de Valencia/El Toro Road	0.88	D	0.87	D
3. Avenida de la Carlota/Paseo de Valencia	0.87	D	0.81	A
16. Moulton Parkway/Lake Forest Drive	0.82	D	0.57	A
17. Moulton Parkway/Ridge Route Drive	0.53	A	0.59	A
18. Avenida de la Carlota/Ridge Route Drive	0.76	C	0.80	C

Note: ICU is Intersection Capacity
Utilization
LOS is Level of Service

The change in the SED conversion factors for the sphere of influence area do not affect the results of the Master EIR. While traffic volumes increase slightly, levels of service and recommendations for circulation improvements do not change as a result of the new SED conversion factor.

CMV-6

Table C-1, Existing Land Use Data Summary, omitted land use for TAZs 613 and 618. TAZ 613 contains 159,600 square feet of commercial uses and TAZ contains 874,770 square feet of commercial uses. While the summary table is incorrect, the model input assumptions were checked and verified that the correct land use data was input into the model. The data's omission from Table C-1 does not result in any changes or significant impacts to the traffic analysis findings. A revised version of Table C-1 is incorporated in the Final Master EIR.

Table II-2 will be modified to reflect the trips generated in Table G of the traffic analysis. This revision to the General Plan will not

affect any of the environmental issues and findings of the traffic analysis and General Plan Draft EIR.

CMV-7

Table II-2 of the General Plan will be modified to reflect the trips generated in Table G of the traffic analysis (see comment CMV-6). This revision to the General Plan will not any of the affect environmental issues and findings of the traffic analysis and General Plan Draft EIR.

CMV-8

The traffic model used to evaluate the impacts of the Laguna Hills General Plan does not undercount traffic generated by office or medical office uses. See response to comment CMV-9, which follows.

CMV-9

The LHTAM model is a windowed subarea model of the County OCTAM II traffic model and, as such, uses socioeconomic data to forecast trip generation. The OCTAM II model was used to maintain consistency between the subarea model, the County model and the regional (SCAG) model, both in terms of methodology and in terms of data bases.

The parameters for the development of trip generation estimates (i.e., land use to socioeconomic data conversion factors and trip generation algorithms) are based on the OCTAM II model procedures. The OCTAM trip generation procedures were utilized by the County to originally size the circulation system in the Laguna Hills area, resulting in the County Master Plan of Arterial Highways (MPAH) designations for the arterial street system within the city limits.

The trip generation for the proposed Laguna Hills General Plan land uses was developed by factoring the OCTAM trips for each zone to account for differences between OCTAM build out socioeconomic data and the socioeconomic data resulting with the proposed General Plan. This method retains the base trip generation algorithms upon which the OCTAM model is calibrated. By using this approach, the LHTAM maintains consistency with OCTAM, which is the basis for countywide transportation planning as well as Congestion Management Program (CMP) compliance.

CMV-10

When a specific development project is proposed within the Urban Village, increases in trip generation will be measured using the same socioeconomic conversion factors as were used for preparation of the Laguna Hills General Plan traffic model. If necessary, new socioeconomic conversion factors will be developed as part of project specific traffic studies to account for specific uses that were not considered in the City's original model.

CMV-11

Comment acknowledged. The traffic circulation figures in the General Plan will be revised per the comment for clarification purposes.

CMV-12

The graphics included in the General Plan and Master EIR are intended to illustrate the major roadways that intersect or run adjacent to the study area boundary (which include the area within the city limits and sphere of influence). Since the Moulton Parkway link between Santa Maria Avenue and Alicia Parkway did not fit this criteria, it was not shown.

CMV-13

The Moulton Parkway Smart Street EIR was certified in October, 1993. It is ultimately the responsibility of the individual jurisdictions to implement the Smart Street concept within their city limits. Discussions with County staff indicate that funding has been identified for the Moulton Parkway Smart Street intersection improvements within Laguna Hills. Smart Street intersection improvements are currently under way at Moulton Parkway/Alicia Parkway in the City of Laguna Hills.

For General Plan purposes, mitigation measure F.2 states that all the intersection improvements identified as part of the traffic analysis, including those identified in the Moulton Parkway Smart Street and Laguna Hills Mall expansion project, shall be constructed in conjunction with adjacent development. These intersection improvements include the following:

Moulton Parkway/Alicia Parkway - Add one left and one right turn lane on the south and eastbound approaches. Add one left turn

lane on the northbound approach. Add one left turn and through lane on the westbound approach.

Moulton Parkway/La Paz Road - Add one left and one right turn lane on the north, south and westbound approaches. Add one left turn and through lane on the eastbound approach.

Moulton Parkway/Oso Parkway - Add one left and one right turn lane on the south, east and westbound approaches. Add one left turn lane on the northbound approach.

Moulton Parkway/Lake Forest Drive - Add one left turn and two through lanes on the northbound approach. Add two through lanes on the southbound approach. Add one left turn and two through lanes on the eastbound approach. Add one left turn and one through lane on the westbound approach.

Moulton Parkway/Ridge Route Drive - Add one left turn, one through and one right turn lane on the northbound approach. Add one left turn and one through lane on the southbound approach. Add one through lane on the eastbound approach. Add one left turn and one through lane on the westbound approach.

CMV-14

Comment noted.

CMV-15

The recommended transportation improvements are necessary to accommodate the development anticipated with the preferred General Plan Land Use Element, but are not yet constructed. The phasing of these improvements is a function of the absorption of new development and the outcome of the development review process, including the traffic impact analysis requirements, as discussed in the Implementation Section of the General Plan. Ultimate arterial designations are illustrated in Figure IV-1 of the General plan. Typical cross sections for arterial widening is illustrated in Figure VII-1 of the General Plan. Intersection improvements above the existing conditions are listed in Table IV-1 of the General Plan and provided as a matrix entitled "Preferred General Plan Proposal Intersection Lane Addition Improvements" in Appendix A of the Draft Master EIR.

CMV-16

The purpose of General Plan traffic analysis is to determine an ultimate circulation system to accommodate the new development anticipated in the proposed Land Use Element. The presentation of existing and General Plan build out ICU/LOS accomplishes this purpose. The intersection improvement listing in Table IV-1 illustrates the intersection improvements over the existing condition to achieve the General Plan ICU/LOS values, and is the link between the two scenarios presented. The inclusion of General Plan traffic volumes on an existing condition network does not change any of the analysis findings, alter any of the potential impacts or affect the findings of the General Plan EIR, and, therefore, is not included in the analysis.

CMV-17

The mitigation measure should refer to Table IV-1 of the General Plan Circulation and Transportation Element. Mitigation (F.2) is revised as follows:

- (F.2) The intersection improvements shown on Table IV-1 of the General Plan Circulation and Transportation Element shall be constructed in conjunction with adjacent development. If determined by the City Engineer to be necessary to provide for adequate traffic flow, individual developments may be required to provide off-site intersection improvements, subject to appropriate reimbursement agreements from future development or other financial mechanisms to ensure that new development pays only its proportionate share for improvements.

CMV-18

The existing land use is based on a survey of 1992/3 conditions. This corresponds to the existing traffic volumes and intersection ICU/LOS values that are based on 1992/3 traffic counts.

CMV-19

See comment CMV-18. As the land use base and existing traffic volumes are from the same year, no interpolation is required. The land use base and the traffic volumes correspond to one another.

CMV-20

While there are zonal differences between OCTAM and Laguna Hills socioeconomic data, these differences do not affect the final model results, as the final trip tables used to assign traffic are based on the Laguna Hills socioeconomic data, not OCTAM socioeconomic data.

The normalized socioeconomic data referenced in the comment (i.e., normalized to control totals by OCTAM zone) were used merely as a basis for providing an initial disaggregation of OCTAM zones to develop LHTAM zones and to develop a LHTAM trip table that would be equivalent to the trip tables in the parent OCTAM model. This initial trip table is one input into the Fratar process (which is described in the Laguna Hills Traffic Analysis Model Description Report in Appendix A of the Master EIR). The second input into the process is a set of factors developed by comparing zonal trip generation for actual existing land uses with the zonal trip generation contained in the OCTAM model. Through the Fratar process, the initial trip table is factored to develop a trip table that equates to trips generated by actual existing land uses. Through this procedure, the base trip distribution assumptions of the parent OCTAM model, and the validity of the OCTAM calibration, are retained, thereby providing consistency with the parent OCTAM model.

CMV-21

The OCTAM socioeconomic data desegregated to LHTAM zones, which is reported on Table E, is incorrect. The errors do not, however, affect the final modeled results. The socioeconomic data in Table E is merely used as the basis for providing an initial disaggregation of OCTAM zones to develop LHTAM zones. The actual basis for modeled traffic volumes is trips generated using socioeconomic data for actual Laguna Hills land uses (see response to comment CMV-11).

A revised version of Table E is attached.

CMV-22

Table E represents 1990 OCTAM socioeconomic data disaggregated to LHTAM zones, while Table F represents socioeconomic data developed using proposed General Plan land uses. The two tables cannot be compared, as Table E does not represent socioeconomic data based on actual existing land uses. While a summary of the existing LHTAM socioeconomic data was not included in the report,

Table A, Existing LHTAM Primary Area Socioeconomic Data, is attached for informational purposes. A true comparison of the differences between existing and future socioeconomic data is provided by comparing Tables A and F.

CMV-23

Examination of the TAZs in which future trip generation is lower than existing trip generation indicates two possible reasons for the lower future trip generation. The first is due to a change in land uses from predominantly retail to a mix of retail and non-retail uses such as is proposed to occur in the City's sphere of influence area and portions of the Urban Village. Even though there may be greater square footage of development in the future, trip generation is lower because non-retail uses (i.e., office and industrial uses) generate fewer trips per employee than do retail uses.

The second reason for lower trip generation in the future, particularly in those TAZs that do not have a change in land use, is due to the overall modeling procedure. In traffic modeling, the initial trips generated are not the trips that are assigned. Residential trips essentially generate "productions" and non-residential trips generate "attractions" (in the simplest of terms). Within the model, the number of productions and attractions need to be equal so that every trip "produced" by a TAZ is "attracted" to another TAZ (otherwise, some trips would have no place to go). To accomplish this, attractions are normalized or "balanced" to equal the productions. This balancing procedure can result, as in the case of the subarea model extracted from OCTAM, in a minor change in the total trip generation for a TAZ when compared for several scenarios, even when there is no change in land uses between those scenarios.

CMV-24

Existing daily traffic volumes were based on actual 1992 trip count data taken within the City of Laguna Hills. Since the comment does not provide detailed information regarding factors such as the method, location, and date counts were taken, or any intervening land use impacts that could have an effect on traffic volumes, it is not possible to correlate the information as presented. City of Laguna Hills' traffic count data is kept on file at the City and can be reviewed during regular City business hours.

CMV-25

Table II-2 of the General Plan will be modified to reflect the trips generated in Table G of the traffic analysis (see comment CMV-6). This revision to the General Plan will not affect any of the environmental issues and findings of the traffic analysis and General Plan Draft EIR.

CMV-26

The maximum feasible intersection geometrics have been incorporated into the General Plan scenario for the intersections of Moulton Parkway at La Paz Road and Oso Parkway. The Draft General Plan and EIR acknowledge that these intersections will operate at LOS F in the build out condition. As shown in Table IV-O-7 of the air quality analysis included in the Draft Master EIR, the majority of traffic at these intersections is pass-through traffic that has neither an origin nor destination within the General Plan study area. The City's ability to affect such regional future effect is limited. A Statement of Overriding Considerations will therefore be prepared for these impacts.

Through participation in the Measure M and CMP program requirements, levels of service will be monitored during the life of the General Plan and, at such time as measured levels of service exceed the Measure M and/or CMP criteria, the City will take the appropriate action to maintain compliance with these two programs.



JUN 6 4 20 PM '94

June 6, 1994

City of Laguna Hills
Mike Thiele, Planning Director
25201 Paseo de Alicia
Suite 150
Laguna Hills, CA 92653

Mayor
Marcia Rudolph

Mayor Pro Tem
Richard T. Dixon

Council Members
Tim Link
Ann Van Haun
Helen Wilson

City Manager
Gaylord F. Knapp

City Clerk
Jeri L. Stately

RE: Lake Forest's Comments Regarding the Laguna Hills
General Plan and Environmental Impact Report.

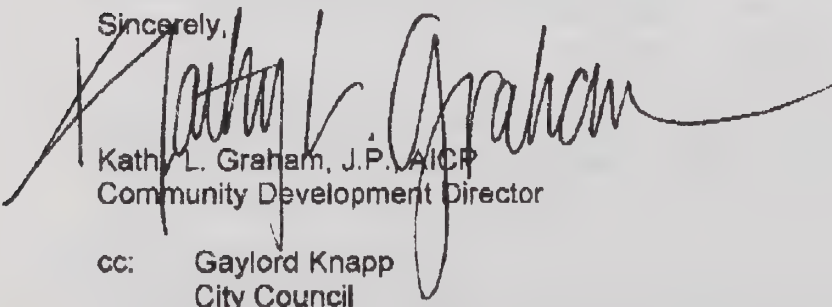
Dear Mr. Thiele:

Thank you for the opportunity to review the draft Laguna Hills General Plan and Environmental Impact report. A summary of our comments on the Plan are attached.

The City of Lake Forest continues to have concern regarding the impacts of development in Laguna Hills which cause traffic impacts in the City of Lake Forest. It is not entirely clear from the Environmental Impact report for your General Plan that the City of Laguna Hills is committed to mitigating the effects of traffic and other environment impacts that spill over into Lake Forest. This is especially true as to proposed development along the I-5 corridor which poses the greatest impacts in the City of Lake Forest. It is the City of Lake Forest's hope that we can continue to work together to mitigate impacts in each other's cities for development occurring in the other such as we did with the Laguna Hills Mall Expansion Environmental Impact Report and the impacts from the expansion. To institutionalize this cooperation, a mitigation measure and General Plan policy should be adopted requiring all new development to be required to mitigate its adverse impacts, especially traffic related ones, regardless of in what jurisdictions the impacts occur.

CLF-1

Sincerely,


Kathy L. Graham, J.P. AICP
Community Development Director

cc: Gaylord Knapp
City Council
Planning Commission

DRUG USE
IS
LIFE ABUSE

23778 Mercury Road
Lake Forest, CA 92630
(714) 707-5583
FAX (714) 707-5723

Lake Forest's Comments Regarding the Laguna Hills General Plan and Environmental Impact Report

DRAFT GENERAL PLAN

The Draft General Plan spells out the City's intention of increasing the land use intensity in several large areas along the southwest side of the I-5 Freeway. This land use intensity is expected to generate greater volumes of traffic than currently being produced. The Draft General Plan, in Table II-2 (page II-20), establishes a trip budget for one such area known as the Urban Village. The Table indicates that the Urban Village could expand in intensity to generate approximately 10,000 vehicle trips per day more than is currently produced. Table II-3 on Page II-21 defines the "Maximum Allowable...Peak Hour Project-Related Traffic Impact" of any new development in the Urban Village. The Plan further defines the various steps to be taken in determining the trip allocation for individual projects.

CLF-2

There are no tables in the document to place trip budgets on other areas identified for intensification along the Freeway corridor. If trip budgets are deemed necessary for the Urban Village area, it seems important to develop them for the other areas.

CLF-3

There are implications in other areas of the report that the definitions outlined in Table II-3 are applicable to projects outside of the "Urban Village". This should be clarified.

The methodologies outlined in Figure II-2, dealing with traffic studies, indicate that projects which exceed the traffic parameters must "...incorporate transportation demand management (TDM) or other trip reduction measures so as to reduce traffic generation...". TDM strategies are not always successful, particularly where applied to retail uses. The methodologies should include down-sizing the project as a trip reduction measure.

CLF-4

Under the Growth Management section of the Draft General Plan, there is a policy statement that the City wants to attain a Level of Service (LOS) of "D" or better at any intersection under the sole control of the City.

This statement appears to be in conflict with several intersections identified as LOS "F" locations in the Circulation Element. This policy goal is also in conflict with a statement on page VII-13 which states that "A level of service (LOS) "D" (and "E" at the peak hour) shall be the performance objective for all intersections

CLF-5

in the City." There are other statements in the Circulation and Transportation Section which indicate that LOS "E" is unacceptable.

The Circulation and Transportation Section says that two intersections in the City, both along Moulton Parkway, are forecast to operate at LOS "F" at the General Plan build-out. This situation is in conflict with the LOS "D" goal and strongly suggests that the Circulation Plan does not support the land use in the City at build-out.

CLF-5
(CONT.)

In the Special Studies and Programs Section, there is a statement outlining a procedure that would allow for the transfer of traffic generation development rights from one site to another. The statement includes a provision that impacts not exceed the parameters outlined in Table II-3 of the document.

CLF-6

The statement appears to be limited to an area known as Laguna Hills Village. This needs to be clarified in the event the procedure is intended to apply to other areas of the City. As a practical matter, We question if the procedure is workable as long as it will be subjected to the provisions of Table II-3.

DRAFT ENVIRONMENTAL IMPACT REPORT

Figure IV-F-1-Existing Circulation System and Daily Traffic Volumes: It would be helpful if a 24-hour count were shown for El Toro between Avenida de la Carlota and the I-5 Freeway.

CLF-7

Table IV-F-3 General Plan (Build-Out) Intersection Level of Service Analysis: This table depicts two intersections which are projected to exceed the LOS goals of the General Plan, as well as the acceptable LOS under Measure M and the CMP. This issue should be addressed in terms of mitigation that returns the intersections to acceptable LOS's.

CLF-8

There appears to be inconsistency with respect to Ridge Route Drive. Figure IV-F-1 depicts the street as being realigned and joining Ridge Route Drive in Lake Forest. However, there is no description of Ridge Route Drive in the list of arterial highways. This should be clarified.

CLF-9

A figure should be added to the DEIR that depicts future build-out volumes on the Circulation Element System. Figure #3 from the Traffic Study would be helpful. A table showing the various build-out volumes and their respective volume/capacity (V/C) ratios would also be helpful. Projected volumes and V/C ratios for Ridge Route Drive and El Toro Road, between Avenida de la Carlota and the Freeway, should be shown. Also, projected volumes and V/C ratios should be shown for the two segments of Avenida de la Carlota between Ridge Route Drive and El Toro Road. These values should be available from the Traffic Study. The Traffic Study has turning movement counts and intersection capacity data for these streets.

CLF-10

TRAFFIC STUDY

In regards to Tables G, H, & I, these tables depict the amount of traffic that is either found to be generated by existing land uses or predicted to be generated by the build-out of the City. These values are shown by zones. There appears to be a significant difference between the trip values projected (Table I) for traffic zones #612 through #621 and those shown in the trip budget table for the Urban Village (Table II-02) in the Draft General Plan. This should be reconciled.

CLF-11

Also, the capacity calculations for El Toro Road and Avenida de la Carlota in the Traffic Study do not appear to take into consideration the existing signal phases. If the signal operation is proposed for change, it should be included as a mitigation measure.

CLF-12

5.0 RESPONSE TO COMMENTS MADE BY THE CITY OF LAKE FOREST

CLF-1

The City of Laguna Hills is committed to ensuring that the impacts of new development and intensification of existing development occurring within Laguna Hills are mitigated. In addition to the provisions of the Laguna Hills General Plan, the City enforces the provisions of the Orange County Congestion Management Plan, as well as the provisions of Measure M, which establish methods of mitigating inter-jurisdictional traffic impacts. Implementation of these provisions will ensure that traffic impacts are mitigated.

It is also the hope of the City of Laguna Hills that the two cities work together to mitigate cross-jurisdictional impacts, and the City is confident that, with adoption of the Laguna Hills and Lake Forest General Plans, such cooperation will be facilitated. In its comment, Lake Forest requests that the City of Laguna Hills "institutionalize" this cooperation by adding a mitigation measure requiring all new development to mitigate its adverse impacts, regardless of the jurisdiction in which the impacts occur. A review of the proposed Lake Forest General Plan and accompanying Draft Master Environmental Impact Report failed to locate a currently proposed policy or mitigation measure that would fulfill Lake Forest's request. It is therefore suggested that *both* cities incorporate the following into their General Plans and accompanying EIRs and work cooperatively to secure the agreement of other surrounding cities to do likewise.

"In reviewing development projects, utilize the General Plan goals, objectives, policies, and standards of affected jurisdictions, as well as their adopted environmental thresholds to determine appropriate mitigation for environmental impacts that will be created outside of the City."

CLF-2

This is a statement summarizing the contents of the General Plan, and has no effect on the findings and recommendations of the Draft EIR.

CLF-3

Based on the traffic analysis prepared for the Laguna Hills General Plan, trip budgets were not found to be needed for other areas of the City or its sphere of influence.

Table II-3 is listed under the heading "Laguna Hills Urban Village" and applies only to the area illustrated in Figure II-1 on page II-22 of the General Plan.

CLF-4

Regardless of the method used, the intent of the General Plan approach is to limit the number of trips associated with new development to a point at or below the trip budget. Any project within the Urban Village that, after the application of all feasible mitigations measures, would generate traffic in excess of established trip budgets, would be inconsistent with the General Plan.

CLF-5

The level of service established as a General Plan mitigation standard is level of service (LOS) D and E at peak hour at all intersections in the City (see page VII-13 of the General Plan Implementation and Monitoring Program). LOS E is identified in the General Plan as the existing acceptable level of service under the requirements of the County's Congestion Management Program.

For response to future LOS F conditions, see response to comment CMV-26.

CLF-6

The statement itself is limiting since Table II-3 refers only to the area illustrated in Figure II-1. No additional clarification is necessary.

CLF-7

The existing 24 hour arterial volumes are based on the City of Laguna Hills' 1992/3 Daily Traffic Flow Map, which indicates that the measured volume along El Toro Road is between Paseo de Valencia and I-5 freeway, including the segment between Avenida de la Carlota and I-5 freeway.

CLF-8

See response to comment CMV-26.

CLF-9

Ridge Route is indicated in the County Master Plan of Arterial Highways (MPAH) as a Primary arterial between Moulton Parkway and Rockfield Boulevard. Between Moulton Parkway and west of Avenida de la Carlota, Ridge Route is constructed as a two lane roadway with no median. On-street parking is allowed in particular locations with restrictions. Bicycle lanes are not provided. The west leg of Avenida de la Carlota/Ridge Route includes four lanes of travel and transitions to the two lane segment adjacent to an existing mobile home park. West of Moulton Parkway, Ridge Route is a four lane arterial with a painted median.

CLF-10

The information referenced in the comment is available in the Laguna Hills Traffic Study, which is included as Appendix A of the Draft Master EIR. Locations for forecast volumes and v/c ratios are consistent with the City of Laguna Hills' existing traffic count program locations. Therefore, the analysis is also consistent.

CLF-11

See response to comment CMV-6.

CLF-12

Intersection level of service analysis is conducted using the CMP approved ICU methodology. This methodology does not account for signal phasing or signal timing. Operational issues, such as signal phasing splits for future conditions, are addressed by the City Traffic Engineer using more specific methodologies on an as needed basis.



UNITED STATES MARINE CORPS

MARINE CORPS AIR BASES WESTERN AREA EL TORO

PO BOX 65001

SANTA ANA CA 92708-5001

IN REPLY REFER TO:

11075

AQ/LHGP

2 June 1994

JUN 3 1994

CITY OF LAGUNA HILLS
ATTN MR. MICHAEL THIELE
PLANNING DIRECTOR
25201 PASEO DE ALICIA SUITE #150
LAGUNA HILLS CA 92653

CITY OF LAGUNA HILLS DRAFT GENERAL PLAN AND EIR

Dear Mr. Thiele:

The above document has been reviewed and the following comments are provided.

- | | |
|---|--------|
| a. Draft Land Use Map Graphic Representation - This map should include the Community Noise Equivalent Level (CNEL) contours and Accident Potential Zones for Marine Corps Air Station (MCAS) El Toro. The City of Laguna Hills is within the MCAS El Toro Airspace and subsequent area of influence. | USMC-1 |
| b. Page II-17 & 18 - The Commercial and Mixed Use designations should address density maximums for those properties directly affected by the Accident Potential and Zones for MCAS El Toro. | USMC-2 |
| c. Page IV-5, 2nd Para. 5th line - Discussion on MCAS El Toro should address existing conditions. Future land use proposals . . . may affect potential flight operations at El Toro. Please elaborate with specific detail. Does this apply to existing flight conditions? | USMC-3 |
| d. Page V-10, B 13. - This should include the U.S. Marine Corps. | USMC-4 |
| e. Page VI-8, 2nd Para. and Map - This should include the entire contours for MCAS El Toro. Additionally, concerns from overflight are not limited to those defined contours. The Community Noise Equivalent Level is a 24 hour averaging of noise level, with a weighting for the evening hours of 7:00 to 10:00 p.m. This area will experience noise from overflight that well exceeds those levels, particularly single event noise. | USMC-5 |
| f. Page VI-12, C-7 - Churches located within industrial complexes should exclude day care facilities. Industrial zoning can be located in high noise areas. | USMC-6 |
| g. Page VI-12, C-8 - Disclosure should include a provision addressing Single Event Noise. Some projects can be characterized as compatible land use; however, Single | USMC-7 |

Event Noise Exposure will be greater and occupants may experience concern over single events.

USMC-7
(CONT.)

Thank you for the opportunity to comment on this document. Please contact Ms. C. Laura Thornton at (714) 726-3702 if you need additional information.

Sincerely,

A handwritten signature in dark ink, appearing to read "D.P. Pender", written in a cursive style.

D.P. PENDER

Colonel, U.S. Marine Corps

Community Planning Liaison Officer

By direction of the Commander

6.0 RESPONSE TO COMMENTS MADE BY THE UNITED STATES MARINE CORPS

USMC-1

Although the comment deals primarily with suggested changes to the General Plan Land Use Map, and does not raise any specific environmental issues, the following response has been prepared for the purpose of clarification of the points raised. The Community Noise Equivalent Level (CNEL) contours and Accident Potential Zones for Marine Corps Air Station (MCAS) El Toro are illustrated in VI-2 of the Airport hazards Management Element of the Environmental Hazards Chapter of the General Plan. An additional noise contour map showing CNEL noise contours from base operations is shown on page VI-8 of the Noise Element of the Environmental Hazards Chapter of the General Plan. It was felt that providing additional documentation of these areas on the General Plan Land Use Map was not necessary.

USMC-2

The comment does not raise any specific environmental issue since reference is made specifically to the General Plan Land Use designations. The comment, however, will be addressed for clarification purposes. Throughout the Laguna Hills General Plan, the fact that existing MCAS, El Toro, operations create noise and aircraft over-flight impacts on the City's sphere of influence have been acknowledged. Reference to height and density restrictions included in the Air Installations Compatible Use Zones Study MCAS El Toro have been included either in text or by reference. To further clarify the existing development restrictions in the proposed Mixed Use land use designation, the following footnote will be added to Table II-1 General Plan Land Use Designations:

"Until such time as the conversion of MCAS El Toro to a non-military use is complete, proposed projects within the Mixed Use General Plan land use designation shall adhere to the height, density and intensity requirements included in the Air Installations Compatible Use Zones Study for the MCAS El Toro."

USMC-3

The comment refers to text included in the Issues section of the General Plan. Since the closure and ultimate conversion of the MCAS will have an effect on the City, its potential effects are discussed as an issue in the General Plan. In developing the

General Plan, the City felt that General Plan policy should include policy to guide future decision makers regarding the ultimate use of the base upon conversion. The General Plan Master EIR provides analysis of only the existing base operations (see pages IV-Y-1 through IV-Y-3 of the General Plan Master EIR), since analysis of the base's future potential flight operations upon closure and reuse would be speculative in nature.

USMC-4

As is stated above, the comment references policy included as part of the Air Quality Element of the General Plan, and raises no specific environmental issue. In addition, given the fact that MCAS El Toro has been slated for closure by the federal government, it is inconclusive as to how the City of Laguna Hills would coordinate and facilitate in the Marine Corps' efforts to establish and implement regional air quality strategies and tactics.

USMC-5

The comment refers to information included in the Noise Element of the General Plan, and does not raise any specific environmental issue. The comment, however, will be addressed for clarification purposes. The graphic representation of CNEL contours documents the relationship the noise contour information provided in the AICUZ Study has on the Laguna Hills General Plan study area. A detailed explanation of the CNEL methodology used in the study has been included on pages IV-W-1 and IV-W-2 of the Environmental Analysis Section of the Master Environmental Impact Report.

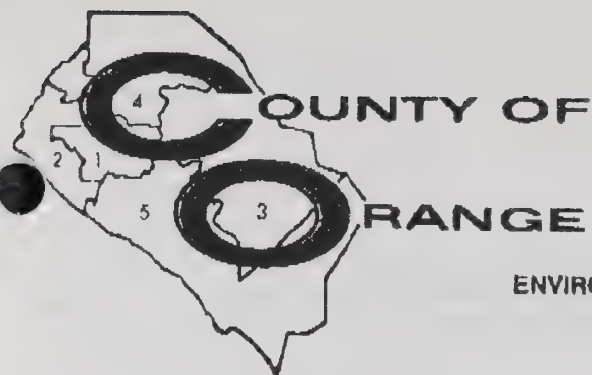
USMC-6

The comment deals with a General Plan and zoning issue, and does not raise any specific environmental issue; however, as stated in previous responses, General Plan strategy and Master EIR mitigation measures indicate that existing regulations pertaining to effects caused by current military operations at MCAS El Toro will be adhered to for all proposed development within the existing AICUZ area up until the base is closed.

USMC-7

Mitigation Measure Y.1. on page IV-Y-3 of the Master Environmental Impact Report addresses the comment by stating that "all development within established MCAS, El Toro flight path conform to the

height, density, intensity, and noise mitigation standards outlined in the military's AICUZ study."



ENVIRONMENTAL MANAGEMENT AGENCY
PLANNING

JUN 06 1994

RECEIVED
JUN 9 1994
CITY OF LAGUNA HILLS

MICHAEL M. RUANE
DIRECTOR, EMA

THOMAS B. MATHEWS
DIRECTOR OF PLANNING

LOCATION :
300 N. FLOWER ST.
THIRD FLOOR
SANTA ANA, CA

MAILING ADDRESS :
P.O. BOX 4048
SANTA ANA, CA 92702-4048

TELEPHONE :
(714) 894-4643
FAX #: 894-2771
DPC. 894-4772

Michael Thiele, Planning Director
City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, CA 92653

NCL 94-39

SUBJECT: Draft Master EIR for the City of Laguna Hills

Dear Mr. Thiele:

The above referenced item is a Draft Master Environmental Impact Report (DEIR) for the City of Laguna Hills. The project site is defined by the corporate boundaries of the City of Laguna Hills and its sphere of influence. The purpose of the Draft Master EIR is to analyze the environmental impacts posed by the adoption of the City's General Plan. The County of Orange has reviewed the Draft Master EIR resulting in the following comments:

CIRCULATION

1. Figure IV-F-2 (Page IV-F-5)

The Master Plan of Countywide Bikeways (MPCB) identifies Lake Forest Drive, Moulton Parkway, the Also Creek Trail, Paseo de Valencia, Cabot Road, and Oso Parkway as regional bikeways. We suggest the exhibit identify these as such.

CO-1

Also, two regional bikeway segments have been omitted, and should be included in the exhibit:

- A. Moulton Parkway (Class II) between Santa Maria Avenue and Lake Forest Drive;
- B. Lake Forest Drive (Class II) between Moulton Parkway and the westerly city limits.

CO-2

In addition, we suggest the following changes to the text:

2. Alicia Parkway (Page IV-F-1)

The MPCB is proposed to be amended to add a regional Class II bikeway along Alicia Parkway in Mission Viejo. Consequently, the southern terminus of the bikeway will be the City limits at the I-5 freeway. We suggest the City of Laguna Hills consider extending this bike route southerly along Alicia Parkway to connection with the existing off-road bikeway along Alicia Parkway, south of Paseo de Valencia. This will close a significant gap in the area's bikeways network.

CO-3

3. Lake Forest Drive (Page IV-F-3)

The description of Lake Forest Drive should include a reference to the regional Class II bikeway along this road.

CO-4

4. Moulton Parkway (Page IV-F-3)

The description of Moulton Parkway should include a reference to the regional Class I bikeway (between Crown Valley Parkway and the Aliso Creek Trail) and the regional Class II bikeway (from the Aliso Creek Trail northerly) along this road.

CO-5

5. La Paz Road (Page IV-F-6)

The MPCB is proposed to be amended to add a Class II regional bikeway along La Paz Road in the City of Mission Viejo. Consequently, the southern terminus of the bikeway will be Muirlands Boulevard. (This route is already existing as a local on-road bikeway.) We suggest the City of Laguna Hills consider extending this bike route southerly to the existing on-road bikeway along La Paz Road, south of Moulton Parkway. This will close a significant gap in the area's bikeways network.

CO-6

Bikeways are mitigation measures that reduce traffic congestion, vehicular noise, and air pollution. Further development of the City's bicycle commuter network will be in compliance with SCAQMD's Regulation XV, the Air Quality Management Plan, and the Federal Clean Air Act.

CO-7

FLOOD

6. Include as Mitigation Measures in Section R-Water Resources

A. Portions of regional flood control facilities such as Aliso Creek, Oso Creek and others may not be capable of conveying discharges resulting from 100-year precipitation over a fully developed watershed. For these reasons the City should coordinate flood control improvements for developments adjacent to these regional flood control systems with the County's Environmental Management Agency (EMA).

CO-8

B. Activities within Orange County Flood Control District (OCFCD) right-of-way will require a public property permit from this agency.

CO-9

C. Grading or construction of buildings within Federal Emergency Management Agency (FEMA) designated 100-year floodplains should comply with the floodplain regulations of FEMA and the City.

CO-10

7. General

The last paragraph of page IV-R-2 states that drainage facilities within the city were built in conformance with the County's Master Plan of drainage. Please note that County Master Plans of Drainage were developed for specific areas for purposes of apportioning developer fees for local drainage, not for sizing major flood control facilities.

CO-11

WATER QUALITY

8. Since the entire project area is essentially built out, the dependence on requiring Best Management Practices (BMPs) for new development per the relevant Drainage Area Management Plan (DAMP) Appendix seems reasonable.

CO-12

RECREATION/OPEN SPACE

9. Master Plan of Regional Recreation Facilities

The northern end of Laguna Coast Wilderness Park is near the northern end of the plan area; the impact analysis should include reference to this park in the section on parks and recreation.

CO-13

10. Master Plan of Regional Riding & Hiking Trails

The plan area includes parts of four regional trails: the Aliso Creek, Nellie Gail, Niguel, and Oso Creek trails. Precise alignments of these trails are shown on the attached maps. The Plan should indicate the routing of these trails on figure IV-I-1, "Existing Park and Recreation Facilities," and discuss them in the section on parks and recreation. Note that the regional riding and hiking trails are part of a separate network than that of the regional bicycle trails.

CO-14

11. Resources Element - Open Space Component

Scenic Highways in the plan area should be discussed. These include El Toro Road, part of Alicia Parkway, part of La Paz Road, and Oso Parkway. A list of the regional scenic highways with designated segments is attached. County policy advises the implementation of a 30' or 25' corridor along a scenic highway, depending on whether it is a viewscape or a landscape corridor. The types of corridors are indicated on this list.

CO-15

BIOLOGICAL RESOURCES

12. Page: IV-P-9, Table IV-P-2: Sensitive Species Potentially Occurring

- Correction to status of Black-shouldered kite: Change State status from "Local Concern" to "FP" (Fully Protected).

CO-16

13. Page: IV-P-11, Table IV-P-2 Legend

- Add "FP" under State Status as follows:

FP: Fully protected - Fish and Game Code sections relating to fully protected animals state that "fully protected birds (Section 3511), mammals (Section 4700), reptiles and amphibians (Section 5050), and fish (Section 5515), or parts thereof, may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected (animal) and no such permits or licenses heretofore issued shall have any force or effect for any such purpose; except that the commission may authorize the collecting of such species for necessary scientific research and may authorize the

CO-17

live capture and relocation of such species pursuant to a permit for the protection of livestock. Legally imported fully protected (animals) or parts thereof may be possessed under a permit issued by the department."

CO-17
(CONT.)

14. Page: IV-P-13, California Gnatcatcher

- A. The discussion of the status of the California gnatcatcher should be updated to include the following information:

On March 25, 1993 the California gnatcatcher was listed as "threatened" under the Federal Endangered Species Act. On May 2, 1994 the California gnatcatcher was removed from the listing as a result of a lawsuit which challenged the listing on several aspects. The Court ruled in favor of the plaintiffs, and found that the Administrative Procedures Act had been violated due to the refusal by the Department of the Interior to make available the scientific data which formed the basis of the listing.

CO-18

Page: IV-P-20, NCCP Process

- B. The County of Orange has been working cooperatively with several cities, and major landowners in the County to prepare habitat conservation plans under the State sanctioned Natural Community Conservation Planning program (NCCP). The County's NCCP is aimed at ensuring the long-term survival of the California gnatcatcher, as well as other sensitive Coastal Sage Scrub-dependent species. It should be noted that recent agreements with the State and Federal resource agencies have confirmed that an approved NCCP plan would satisfy their respective endangered species acts.
- C. The City of Laguna Hills is located in the Central/Coastal Subregional NCCP. Of the 66,738 acres of Coastal Sage Scrub found in Orange County, the Central/Coastal Subregion has 36,614 acres, or 55% of the County-wide total.
- D. Regardless of the Federal de-listing of the California gnatcatcher on May 2, 1994, the County of Orange intends to pursue completion of the NCCP program. The County hopes to have the NCCPs completed and approved by early 1995.
- E. As the lead agency for the NCCP, the County is obligated to track all Coastal Sage Scrub losses and report those losses to the U.S. Fish and Wildlife Service. In addition, the County requests that all non-participating jurisdictions transmit copies of plans and reports indicating the locations of Coastal Sage Scrub proposed to be removed. Although the City of Laguna Hills has elected not to participate in the NCCP, the County would greatly appreciate the City's cooperation with this effort. Please submit reports to:

CO-19

CO-20

CO-21

CO-22

Director of Planning
County of Orange/Environmental Management Agency
P.O. Box 4048
Santa Ana, CA 92702-4048

WASTE MANAGEMENT

We suggest the following paragraphs under Section G. INFRASTRUCTURE - Existing Setting, Solid Waste be revised as follows:

15. Recommended text:

"Prima Deshecha Landfill opened in March 1976 as a Class II-2 landfill, and was reclassified as a Class III landfill, which is suitable for the disposal of non-hazardous ~~and-municipal~~ municipal solid waste, in 1989. The property is owned by the County of Orange and the landfill is operated by the Orange County of Orange Integrated Waste Management Department (IWMD)."

CO-23

"The landfill is open Monday through Saturday from 7 a.m. to 4 p.m. for public use, and from 7 a.m. to 5 p.m. for commercial haulers. The landfill currently accepts approximately 1,200 tons per day, or approximately 370,000 tons per year of non-hazardous municipal solid waste. The amount of refuse collected varies throughout the year depending on the season. ~~IWMD is seeking a permit revision to accept up to 4,000 tons per day of non-hazardous municipal solid waste.~~ Currently, the Solid Waste Local Enforcement Agency (County of Orange Health Care Agency/Environmental Health) allows IWMD to accept up to 4,000 tons per day of non-hazardous municipal solid waste while seeking a new permit revision to reflect the 4,000 tons per day acceptance threshold."

CO-24

"Based on the existing 1979 landfill General Development Plan prepared by the County of Orange, with a refuse capacity of 81,000,000 cubic yards, and with present waste stream projections, the landfill is anticipated to have adequate capacity to serve the region through the year 2030."

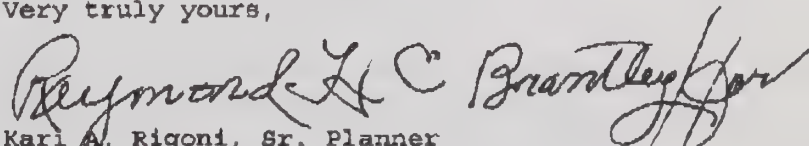
CO-25

16. In addition to the recommended text, the DEIR should also indicate that Orange County has four active county-owned and operated Class III landfill sites which accept only non-hazardous solid waste and that there is no hazardous waste disposal site in Orange County. For the acceptance of household hazardous waste, there are four Household Hazardous Waste Collection Centers (HHWC) in Orange County in each of the following cities: Anaheim, Huntington Beach, Irvine, and in San Juan Capistrano at the Prima Deshecha Landfill.

CO-26

Thank you for the opportunity to respond to the Draft Master EIR. If you have questions, please call Kari Rigoni at (714) 834-2109.

Very truly yours,


Kari A. Rigoni, Sr. Planner

For: Robert W. White, Manager
EMA/Environmental Planning Division

CH:tk/4060708041930

Attachments

7.0 RESPONSE TO COMMENTS MADE BY THE COUNTY OF ORANGE

CO-1

Figure IV-F-2 on page IV-F-5 of the Draft Master EIR has been revised to indicate the trails as part of the County's regional trail system (see Figure IV-F-2 attached).

CO-2

Figure IV-F-2 has been revised to include Class II bikeway segments along Moulton Parkway between Santa Maria Avenue and Lake Forest Drive, and along Lake Forest Drive between Moulton Parkway and the westerly city limits (see also response to comment CO-1).

CO-3

The development of a Class II bicycle trail along Alicia Parkway, from the I-5 Freeway to Paseo de Valencia, is currently included as a proposed trail link in the Laguna Hills Master Plan of Parks and Recreation.

CO-4

Text on page IV-F-3 of the Draft Master EIR has been revised as follows:

"On-street parking is prohibited along most of the roadway, and a Class II regional bikeway has been designated from Moulton Parkway to the westerly limits of the General Plan study area."

CO-5

The following additional text is added to the end of the description of Moulton Parkway on page IV-F-4 of the Draft Master EIR:

"Existing bike trail improvements along Moulton Parkway include a Class I trail from Oso Parkway to the southern city limits, and a Class II bike trail from Alicia Parkway to the westerly city limits. The County of Orange has designated that a Class I bike trail run along Moulton Parkway from Crown Valley Parkway (south of the General Plan study area) north to the Aliso Creek Trail connecting with a

Class II bike trail from the Aliso Creek Trail north through the City's sphere of influence."

CO-6

The development of a Class II bike trail along La Paz Road, from the I-5 Freeway to Paseo de Valencia, as well as a Class I bike trail from Paseo de Valencia to Moulton Parkway is currently included as a proposed trail link in the Laguna Hills Master Plan of Parks and Recreation.

CO-7

Comment noted.

CO-8

Mitigation measures regarding coordination of local and regional drainage facilities are located on Page IV-V-3 of the Master EIR. Therefore, additional mitigation measures are not necessary.

CO-9

See Response to Comment CO-8.

CO-10

See Response to Comment CO-8.

CO-11

Early telephone consultation with County Flood Control District representatives indicated that drainage facilities within the General Plan study area were constructed in conformance with the County's Master Plan of Drainage and Flood Control. The County Master Plan of Drainage was developed for the purposes of apportioning developer fees for local drainage, not for sizing major flood control facilities. Information regarding the 100 year flooding potential within the General Plan study area is included in Figure IV-R-2 on page IV-R-4 of the Draft master EIR. The figure indicates that there are currently no residential structures threatened with inundation from a 100 year flood event.

CO-12

Comment noted.

CO-13

The following text is added under "Regional Parks" on page IV-I-1 of the Draft Master EIR:

"A planned regional open space area of approximately 17,500 acres is located just west of the General Plan study area. Commonly referred to as the Coastal Greenbelt, the greenbelt is comprised of open space lands extending between Crystal Cove State Park, Irvine Coast Wilderness Dedication Area, Bommer and Shady Canyons, Laguna and Laurel Canyons, Aliso/Wood Canyons, Newport Coast areas of Los Trancos Canyon, Muddy Canyon and Buck Gully. The Laguna Coast Wilderness Park component of the Coastal Greenbelt is located just west of the City of Laguna Hills sphere of influence. The County of Orange is in the process of preparing a General Development Plan for the Laguna Coast Wilderness Park, including public hearings to identify the most appropriate uses in the park."

CO-14

Discussion regarding existing regional trails is included in the Master Plan of Parks and Recreation. Text under "Regional Parks" on page IV-I-1 of the Draft Master EIR is retitled to read "Regional Parks and Trails." In addition, the following text is inserted following the revised existing text (see also comment CO-13):

"Several County designated regional trails run through the General Plan study area. These include the Aliso Creek, Nellie Gail, Niguel, and Oso Creek trails (see Figure IV-I-1). These riding and hiking trails represent a separate system of trails than is provided as part of the local and regional trail system."

CO-15

County designated scenic landscape corridors are indicated in Figure IV-D-5 on page IV-D-6 of the Draft Master EIR. Such landscape corridors and resulting easements are discussed on pages IV-D-3 through IV-D-5 of the Draft Master EIR.

CO-16

A revision to the Draft Master EIR is not warranted. The designation "FP" (Fully Protected) is not commonly used to describe the sensitivity of a particular species but is intended to prohibit the take or possession of certain species. An animal may be "fully protected," for example, and not represent a threatened, endangered, or sensitive species.

CO-17

See comment CO-16.

CO-18

The comment is noted. The following text replaces the existing text under the heading California Gnatcatcher on page IV-P-13 of the Draft Master EIR:

"The California gnatcatcher is known to occupy coastal sage scrub habitat in the vicinity of the General Plan study area, but none of the limited coastal sage scrub in the General Plan study area is considered to be suitable or appropriate for this species due to the very small habitat patch size, isolation from larger natural areas, and low cover densities. On March 25, 1993, the California gnatcatcher was listed as 'threatened' under the Federal Endangered Species Act. On May 2, 1994 the California gnatcatcher was removed from the listing as a result of a lawsuit which challenged the listing on several aspects. The Court ruled in favor of the plaintiffs, and found that the Administrative Procedures Act had been violated due to the refusal by the Department of the Interior to make available the scientific data which formed the basis of the listing."

CO-19

Comment is noted.

CO-20

Comment is noted.

CO-21

Comment is noted.

CO-22

Since the City of Laguna Hills is almost entirely built out, and the local sage scrub habitat is of poor quality, it is not anticipated that new development will have a significant effect on regional coastal sage scrub habitat. As is stated on page IV-P-5 of the Draft Master Plan EIR, "none of the coastal sage scrub within the General Plan study area is expected to provide useful habitat to any of the numerous sensitive species associated with coastal sage scrub in the region, including the California gnatcatcher and the coastal cactus wren."

CO-23

The second paragraph on page IV-G-6 of the Draft Master EIR is revised to read as follows:

"Prima Deshecha Landfill opened in March 1976 as a Class II-2 landfill, and was reclassified as a Class III landfill, which is suitable for the disposal of non-hazardous municipal solid waste, in 1989. The property is owned by the County of Orange and the landfill is operated by the County of Orange Integrated Waste Management Department (IWMD)."

CO-24

The comment is noted. The third paragraph on page IV-G-6 of the Draft Master EIR is revised to read as follows:

"The landfill is open Monday through Saturday from 7 a.m. to 4 p.m. for public use, and from 7 a.m. to 5 p.m. for commercial haulers. The landfill currently accepts approximately 1,200 tons per day, or approximately 370,000 tons per year of non-hazardous municipal solid waste. The amount of refuse collected varies throughout the year depending on the season. Currently, the solid Waste Local Enforcement Agency (County of Orange Health Care Agency/Environmental Health) allows IWMD to accept up to 4,000 tons per day of non-hazardous municipal solid waste while seeking a new permit revision to reflect the 4,000 tons per day acceptance threshold."

CO-25

The fifth paragraph on page IV-G-6 is revised to read as follows:

"Based on the existing 1979 landfill General Development Plan prepared by the County of Orange, with a refuse capacity of 81,000,000 cubic yards, and with the present waste stream projections, the landfill is anticipated to have adequate capacity to serve the region through the year 2030."

CO-26

The comment is noted. Following the last paragraph on page IV-G-6 of the Draft Master EIR, the following text is added to read as follows:

"Orange County also has four active county-owned and operated Class III landfill sites which accept only non-hazardous solid waste and there is currently no hazardous waste disposal sites in Orange County. The county does have several Household Hazardous Waste Collection Centers (HHWC) in Anaheim, Huntington Beach, Irvine, and in San Juan Capistrano at the Prima Deshecha Landfill."

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY

PETE WILSON, Governor

DEPARTMENT OF TRANSPORTATION

DISTRICT 12

2901 PULLMAN STREET

SANTA ANA, CA 92705



June 4, 1994

Mr. Miko Thiele
Planning Director
City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, Ca. 92653

File: IGR/CHQA
SCH # 94041037

Dear Mr. Thiele:

Thank you for the opportunity to review and comment on the City of Laguna Hills General Plan and Draft Master EIR. The proposed project is the first General Plan for the City of Laguna Hills. Caltrans District 12 is a reviewing agency and has the following comments for your consideration.

As you proceed in the process for approving the General Plan, the circulation element should adequately address the impacts of the land uses on transportation not only for the local streets and roads but the regional system as a whole. This would also apply to state facilities such as I-5, SR-133, and SR-73. Any impacts that would further reduce the capacity to an unacceptable level should be discussed and mitigation measures provided in the General Plan. This should take into account the requirements of the Congestion Management Plan and any local ordinances established by your jurisdiction.

DOT-1

Due to the comprehensiveness of the General Plan submitted, the reviewing branches have not completed their analyses. We expect the final comments to be submitted to your city by early next week. The following comments are for your consideration.

DOT-2

The City's Master Plan of Trails should be consistent with both the Countywide Master Plan of Bikeways and the Countywide Master Plan of Hiking and Riding Trails prepared by Orange County Environmental Management Agency.

DOT-3

The City may want to coordinate with the Orange County Transportation Authority's Master Plan of Commuting Bikeways. OCTA is currently developing the commuting master plan.

DOT-4

Wide curb lanes provide a bicycle friendly facility without designating a bikeway on the road. This will encourage nonmotorized travel, reducing congestion and improving air quality.

DOT-5

Caltrans will be interested in the bicycle facilities that will impact the ramps and the operations of any Caltrans facility.

DOT-6

Mr. Mike Thiele

Page 2

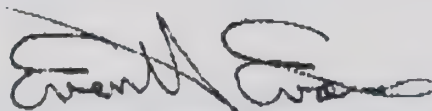
June 4, 1994

The implementation of the nonmotorized element of the City's Congestion Management Program appears to be placed on new development. There are no provisions stated that put any responsibility upon the city to provide facilities to accommodate the nonmotorized travel.

DOT-7

We appreciate the opportunity to comment on the draft General Plan. If you have any questions regarding our comments, please do not hesitate to call Aileen Kennedy on (714) 724-2239.

Sincerely,



Everett Evans, Chief
Office of Planning and Public Transportation
District 12

cc: Tom Loftus, OPR
Ron Helgeson, HDQTRS Planning
Robert Joseph, System Analysis

8.0 RESPONSE TO COMMENTS MADE BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION

DOT-1

As was stated in our response to comments to the City of Mission Viejo, the purpose of conducting a traffic modeling effort and traffic analysis for the Laguna Hills General Plan is to adequately size the arterial street system within the City of Laguna Hills in order to accommodate the forecast land uses anticipated in the proposed Land Use Element. As such, the traffic analysis focused on the effects of traffic generated within the greater Orange County region, including the City of Laguna Hills, on the arterials and intersections within the city limits. In cases where the existing and planned circulation system could not accommodate the traffic generated by regional and local sources, additional circulation improvements are recommended with the goal of maintaining a citywide transportation system that maximizes freedom and safety of movement and maintains a balance between mobility, cost efficiency and the quality of life.

Based on discussion with Orange County Transportation Authority staff, the regional Congestion Management Program (CMP) agency, CMP requirements for analyses on regional facilities (i.e., CMP highways outside of Laguna Hills) do not apply to General Plans, as a General Plan is a policy document and not a specific development related approval document. There are no requirements to assess the circulation impacts of this policy document on facilities outside the jurisdiction of the City of Laguna Hills.

The proposed General Plan does, however, include mechanisms to assess the circulation impacts of future individual development projects on local and regional roadways. The City of Laguna Hills shall prepare and adopt a traffic impact analysis (TIA) preparation manual as required on page VII-43 of the Draft General Plan. The City shall participate in intergovernmental programs to coordinate circulation facilities as outlined on page VII-37 of the General Plan. The City has a stated strategy to maintain consistency with CMP and Growth Management Program requirements, which address the analysis of impacts on regional facilities (page IV-12 of the General Plan).

DOT-2

The Draft Master EIR has been circulated for a 45 day review period as mandated by CEQA. The last day of this review period was June 6, 1994. Although the City of Laguna Hills welcomes further

assistance of the Department of Transportation, additional comments are not required to be made part of the Final EIR.

DOT-3

The City of Laguna Hills General Plan and Master Plan of Parks and Recreation recognize both existing and proposed County trail programs (see our responses to comments made to the County of Orange).

DOT-4

See response to comment CO-1.

DOT-5

Comment is noted.

DOT-6

As part of the City's Master Plan for Parks and Recreation, a total of approximately nine million dollars worth of bicycle, hiking, and equestrian trails are proposed to be built over the next 20 years. In addition, the City's Laguna Hills Urban Village concept includes the development of a more pedestrian oriented environment in an effort to reduce the number of vehicle trips and congestion in the immediate area.



AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY

300 N. Flower St., Rm.356, Santa Ana, Ca 92702-4048
Mailing Address: P.O.Box 4048, Santa Ana, Ca 92702-4048

Phone: (714) 834-5312

Fax: (714) 834-6132

JUN 8 1994

JUN 9 1994

Michael Thiele, Planning Director
City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, CA 92653

CITY OF LAGUNA HILLS

Subject: City of Laguna Hills General Plan and Draft Master EIR

Dear Mr. Thiele:

Airport Land Use Commission (ALUC) staff has reviewed the above referenced General Plan and Draft Master EIR.

In accordance with Section 21676(b), Article 3.5 of the Public Utilities Code, the subject General Plan must be submitted to the ALUC for their review and determination of consistency with the Airport Environs Land Use Plan (AELUP). ALUC hearings on general plans are ordinarily held after Planning Commission and prior to City Council action. Since the City's General Plan is currently scheduled for City Council action on June 28, 1994, ALUC staff will schedule the General Plan for the June 23, 1994 ALUC hearing.

ALUC-1

ALUC staff has found that the changes noted below should be incorporated in the draft General Plan. Please submit the revised General Plan (noting any changes to the document) by June 14, 1994. This will enable ALUC staff to review the revisions and schedule the General Plan for the June 23, 1994 ALUC hearing.

Recommended Changes:

Figure VII-2 (Page VII-34) - The row titled "Residential/Lodging (Single Family/Duplex)" indicates these uses are "normally unacceptable" in the 65 to 75 dBA CNEL. This should be changed to "clearly unacceptable" since single family uses are not permitted within the 65 dBA CNEL as depicted on Table VII-3.

ALUC-2

Table VII-3 (Page VII-31) - The indicated maximum exterior noise level for "Schools: Playgrounds" is 70 dBA Leq. A footnote should be added to clarify that school uses are normally unacceptable within the 65 dBA CNEL.

ALUC-3

Thank you for the opportunity to review the General Plan and Draft Master EIR. Should you have any questions, please feel free to call me at 834-5312 or contact Alan Gamson directly. Alan may be reached at 834-5378.

Very truly yours,

George Britton
George Britton
Executive Officer

9.0 RESPONSES TO COMMENTS FROM THE AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY

ALUC-1

Comment acknowledged.

ALUC-2

The comment is acknowledged. Although it may appear that the tables are inconsistent, the difference in the definitions for residential uses within each table is necessary. The reason that these uses are defined as "normally unacceptable" rather than "clearly unacceptable" is to allow for implementation of mitigation measures. This would allow for example, a residentially designated parcel within an existing 70 or 75 CNEL contour to be developed with a residential use if it could be demonstrated that the interior and exterior noise standards identified in Table IV-W-5 could be met.

ALUC-3

Use of a CNEL noise standard for a school playground is not necessarily an appropriate standard. Given that CNEL represents a 24 hour average, it is possible to determine a land area to be unacceptable for school playground use due to noise generated at night when schools are not in session. The 70 dbA Leq suggested by the General Plan is more appropriate because it would be measured while schools are in session.

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET
SACRAMENTO, CA 95814

June 3, 1994

Mike
JUN 8 1994
CITY OF LAGUNA HILLS

MIKE THIELE

CITY OF LAGUNA HILLS

25201 PASO DE ALICIA, SUITE 150
LAGUNA HILLS, CA 92653Subject: CITY OF LAGUNA HILLS GENERAL PLAN MASTER EIR SCH #:
94041037

Dear MIKE THIELE:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

OPR-1

Please call Mark Goss at (916) 445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse in this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

Michael Chiriat, Jr.
Chief, State Clearinghouse

Notice of Completion

Mail to: State Clearinghouse, 1400 Tenib Street, Sacramento, CA 95814 916/443,0613

See NOTE below

SCH#

14041037

Project Title: City of Laguna Hills General Plan Master Environmental Impact Report

Lead Agency: City of Laguna Hills

Contact Person: Mike Thiele, Planning Director

Street Address: 24201 Paseo de Alicia, Suite 150

Phone: (714) 707-2500

City: Laguna Hills

Zip: 92653

County: Orange

Project Location

County: Orange

City/Nearest Community: Laguna Hills

Cross Streets

Zip Code: 92653

Total Acres: 4079.7

Assessor's Parcel No.

Section:

Twp.

Range

Base:

Within 2 Miles: State Hwy #15

Waterways:

Airport: El Toro MCAS

Railways: A.T. & S.F.

Schools: Saddleback School District

Document Type

CEQA:

- ☐ NOI
☐ Early Conc
☐ Neg. Dec
☐ Draft EIR

- ☐ Supplement/Subsequent
☐ EIR (Prior SCH No.)
☐ Other

NHPA:

- ☐ NOI
☐ RA
☐ Draft EIS
☐ FONSI

Other:

- ☐ Joint Document
☐ Final Document
☐ Other Joint Doc. w/Gen. Plan

Local Action Type

- ☐ General Plan Update
☐ General Plan Amendment
☐ General Plan Element
☐ Community Plan

- ☐ Specific Plan
☐ Master Plan
☐ Planned Unit Development
☐ Site Plan

- ☐ Rezone
☐ Prezone
☐ Use Permit
☐ Land Division (Subdivision, Parcel Map, Trust Map, etc.)

- ☐ Annexation
☐ Redevelopment
☐ Coastal Permit
☐ Other New City Gen. Plan

Land Use/Project Type

- ☐ Residential: Units _____ Acres _____
☐ Office: Sq. ft. _____ Acres _____ Employees _____
☐ Commercial: Sq. ft. _____ Acres _____ Employees _____
☐ Industrial: Sq. ft. _____ Acres _____ Employees _____
☐ Educational:
☐ Recreational:

- ☐ Water Facilities: Type _____ MGD
☐ Transportation: Type _____
☐ Mining: Mineral _____
☐ Power: Type _____ Watts
☐ Waste Treatment: Type _____
☐ Hazardous Waste: Type _____
☐ Other

Project Issues Discussed in Document

- ☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archaeological/Historical
☒ Coastal Zone
☒ Drainage/Absorption
☒ Economic/Job
☒ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks

- ☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation

- ☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Waterway
☒ Wildlife
☒ Cumulative Effects

Present Land Use/Zoning/General Plan Use

Present Description

The "proposed project" addressed by this Master EIR is the first General Plan for the City of Laguna Hills. The General Plan provides a description of the existing setting of the City at the time the plan was prepared, defines existing and proposed land uses, describes the type of city desired by the residents, and establishes goals, objectives, policies, and strategies to achieve the residents' vision. The General Plan study area includes 3,324.7 acres within the City of Laguna Hills and 753 acres within the adopted sphere of influence. In total, the General Plan study area includes 4,079.7 acres, 10,241 dwelling units, and 27,888 residents.

CLEARINGHOUSE CONTACT:

(916) 445-0613

MARK GOSS

STATE REVIEW BEGAN:

4-18-94

DEPT REV TO AGENCY:

5-26

AGENCY REV TO SCH:

5-31

SCH COMPLIANCE:

6-02

CHT ENT

X Resources

X Conservation

X Fish & Game

X Parks & Rec/GRP

X DWR

X Caltrans

CHT ENT

State/Consumer Svcs

CA Waste Mgmt Bd

Wetland/Waterway

Wildlife

Cumulative Effects

PLEASE NOTE SCH NUMBER ON ALL COMMENTS

PLEASE FORWARD LATE COMMENTS DIRECTLY TO THE LEAD AGENCY ONLY

AQMD/APCD: 33 (Resources: 4/23)

1-8 = sent by lead / * = sent by SCH

**10.0 RESPONSE TO COMMENT MADE BY THE
GOVERNOR'S OFFICE OF PLANNING AND
RESEARCH**

OPR-1

Comment acknowledged.

ERRATA INFORMATION

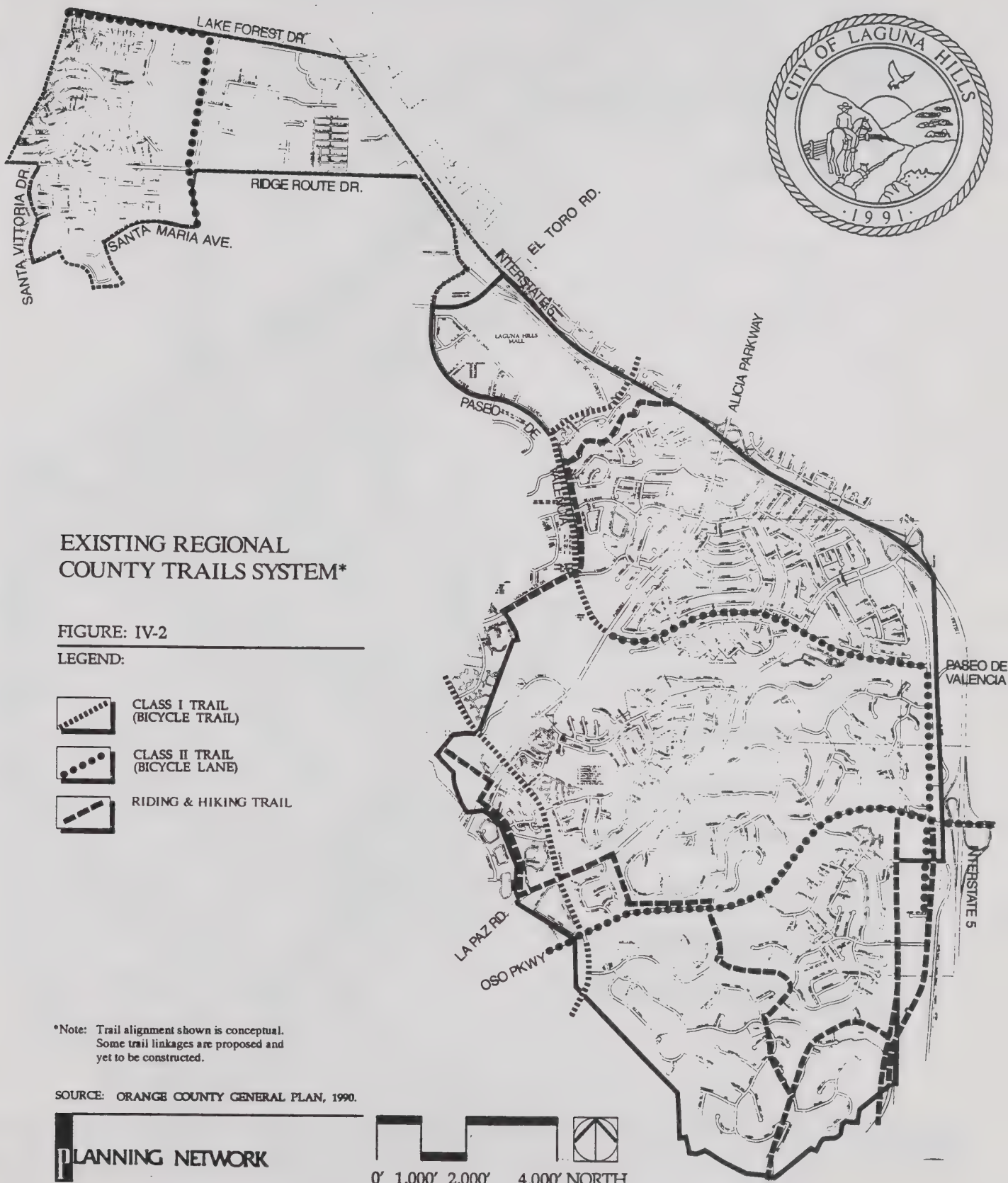
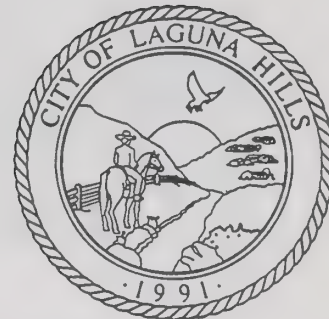


Table C-1 - Existing Land Use Data Summary

TAZ	SDU (DU)	MDU (DU)	Commercial (TSF)	Office (TSF)	Medical Office (TSF)	Mixed Use (TSF)	Industrial/ Bus. Park (TSF)
Annexation Area							
605		502					
606		626	7.20	105.00			
607				43.50			285.20
608				370.80			
609	245	152					
610	240	92	89.10				
611							1,899.13
612	225		451.50				
613			159.60				
Total	710	1,372	707.40	519.30	0.00	0.00	2,184.33
City of Laguna Hills							
614			99.24				
615			350.90				
616							
617				268.00			
618			874.77				
619				98.60			
620		548	1.50				
621		216	131.10	196.23			
622	75						
623	300						
624	65			80.00			
625	350	50					
626			172.07				
627		205					
628			55.70				
629			130.30				
630	1,095		135.60	20.00			
631		366					
632							
633		324					
634	187	248					
635	15	369					
636	158		56.40				
637			51.80				
638	205						
639	421			18.20			
640	280						
641	245						
642			155.20	29.00			
643			85.21				
644		306	22.40				
645	88						
646	357						
647	355						
648	54						
649	710						
650	525	88					
651			56.80	111.20			
Total	5,485	2,720	2,379.00	821.23	0.00	0.00	0.00
Grand Total	6,195	4,092	3,086.40	1,340.53	0.00	0.00	2,184.33

Table A - Existing LHTAM Primary Area Socioeconomic Data

TAZ	SDU	MDU	Group Quarters	Popul.	Acres	Retail Emp.	Total Emp.	Low DU	Medium DU	High DU
605	0	502	0	1,004	77.49	0	0	65	171	266
606	0	626	0	1,252	106.19	14	382	81	213	332
607	0	0	0	0	34.44	0	1,008	0	0	0
608	0	0	0	0	68.88	0	1,298	0	0	0
609	245	152	0	1,039	142.04	0	0	52	135	210
610	240	92	0	904	125.96	178	178	43	113	176
611	0	0	0	0	210.75	0	5,697	0	0	0
612	225	0	0	675	70.25	903	903	103	88	34
613	0	0	0	0	34.00	319	319	0	0	0
614	0	0	0	0	14.10	198	198	0	0	0
615	0	0	0	0	31.02	702	702	0	0	0
616	0	0	0	0	11.28	0	0	0	0	0
617	0	0	0	0	8.46	0	938	0	0	0
618	0	0	0	0	87.42	1,750	1,750	0	0	0
619	0	0	0	0	16.92	0	345	0	0	0
620	0	548	0	1,096	25.38	3	3	296	186	66
621	0	216	0	432	47.94	262	949	117	73	26
622	75	0	0	225	39.48	0	0	41	26	9
623	300	0	0	900	51.30	0	0	51	120	129
624	65	0	0	195	15.20	0	280	11	26	28
625	350	50	0	1,150	74.10	0	0	68	160	172
626	0	0	0	0	22.80	344	344	0	0	0
627	0	205	0	410	19.00	0	0	35	82	88
628	0	0	0	0	7.60	111	111	0	0	0
629	0	0	0	0	28.00	261	261	0	0	0
630	1,095	0	0	3,285	372.00	271	341	186	438	471
631	0	366	0	732	107.80	0	0	190	128	48
632	0	0	0	0	13.20	0	0	0	0	0
633	0	324	0	648	75.85	0	0	10	32	282
634	187	248	0	1,057	129.15	0	0	13	44	378
635	15	369	0	783	58.96	0	0	46	108	230
636	158	0	0	474	75.04	113	113	19	44	95
637	0	0	0	0	10.72	104	104	0	0	0
638	205	0	0	615	134.00	0	0	25	57	123
639	421	0	0	1,263	166.16	0	64	51	118	253
640	280	0	0	840	91.12	0	0	34	78	168
641	245	0	0	735	77.50	0	0	42	98	105
642	0	0	0	0	15.00	310	412	0	0	0
643	0	0	0	0	18.75	170	170	0	0	0
644	0	306	0	612	80.00	45	45	37	86	184
645	88	0	0	264	26.20	0	0	1	2	85
646	357	0	0	1,071	294.75	0	0	4	7	346
647	355	0	0	1,065	320.95	0	0	4	7	344
648	54	0	0	162	13.10	0	0	1	1	52
649	710	0	0	2,130	737.10	0	0	14	71	625
650	525	88	0	1,751	432.90	0	0	12	61	539
651	0	0	0	0	6.25	114	503	0	0	0
Total	6,195	4,092	0	26,769	4,626.50	6,173	17,418	1,649	2,773	5,865

Table E - Existing OCTAM Socioeconomic Data for the LHTAM Primary Area

TAZ	SDU	MDU	Group Quarters	Popul.	Acres	Retail Emp.	Total Emp.	Low DU	Medium DU	High DU
605	0	491	0	857	77.49	0	338	64	167	260
606	0	601	0	1,047	106.19	0	463	78	204	318
607	0	0	0	0	34.44	0	150	0	0	0
608	0	0	0	0	68.88	0	300	0	0	0
609	376	0	0	655	142.04	0	32	49	128	199
610	361	0	0	630	125.96	323	351	47	123	191
611	0	0	0	0	210.75	0	2,915	0	0	0
612	0	154	0	269	70.25	600	972	70	61	23
613	0	0	0	0	34.00	458	819	0	0	0
614	0	0	0	0	14.10	183	287	0	0	0
615	0	0	0	0	31.02	629	857	0	0	0
616	0	0	0	0	11.28	0	83	0	0	0
617	0	0	0	0	8.46	0	62	0	0	0
618	0	0	0	0	87.42	1,571	2,214	0	0	0
619	0	0	0	0	16.92	0	124	0	0	0
620	0	431	127	834	25.38	0	187	233	147	52
621	0	168	50	326	47.94	236	588	91	57	20
622	339	0	0	653	39.48	0	290	183	115	41
623	251	0	0	663	51.30	0	83	43	100	108
624	54	0	0	145	15.20	0	24	9	21	23
625	293	118	0	870	74.10	0	119	70	164	177
626	0	0	0	0	22.80	272	309	0	0	0
627	0	473	0	394	19.00	0	31	80	189	203
628	0	0	0	0	7.60	86	98	0	0	0
629	0	0	0	42	28.00	175	197	0	0	0
630	1,194	0	0	2,040	372.00	183	467	203	478	513
631	0	545	0	951	107.80	0	61	284	191	71
632	0	67	0	116	13.20	0	8	35	23	9
633	0	153	0	491	75.85	0	35	18	43	92
634	59	257	0	824	129.15	0	58	38	89	190
635	316	54	0	1,060	58.96	0	21	11	37	322
636	135	23	0	452	75.04	67	94	5	16	137
637	0	0	0	0	10.72	62	66	0	0	0
638	175	30	0	588	134.00	0	48	6	21	179
639	360	62	0	1,208	166.16	0	60	13	42	367
640	239	41	0	801	91.12	0	33	8	28	244
641	199	0	0	347	77.50	0	0	34	80	86
642	0	0	0	0	15.00	207	293	0	0	0
643	0	0	0	0	18.75	244	346	0	0	0
644	0	90	0	257	80.00	0	62	15	36	39
645	50	0	0	157	26.20	0	5	1	1	49
646	210	0	0	630	294.75	0	56	2	4	204
647	210	0	0	615	320.95	0	61	2	4	204
648	30	0	0	29	13.10	0	2	0	1	29
649	187	0	0	527	737.10	0	369	4	19	165
650	141	26	0	486	432.90	0	219	3	17	147
651	0	0	0	0	6.25	288	408	0	0	0
Total	5,178	3,786	177	18,965	4,626.50	5,584	14,662	1,698	2,605	4,661

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 1
 North/South Roadway: Avenida de la Carlota
 East/West Roadway: El Toro Road

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	40	80	0.02	0.05
NBT	1	1,700	540	260	0.32 *	0.15 *
NBR	2 P	3,400	590	890	0.00	0.00
SBL	0	0	420	290	0.00	0.00
SBT(1)	3	5,100	430	1,170	0.18 *	0.32 *
SBR	0	0	90	180	0.00	0.00
EBL	0	0	0	0	0.00	0.00
EBT	4	6,800	970	1,120	0.16 *	0.18 *
EBR	0	0	110	120	0.00	0.00
WBL	2	3,400	150	510	0.04 *	0.15 *
WBT	3	5,100	420	820	0.08	0.16
WBR	1 P	1,700	570	450	0.01 *	0.00
N/S Critical Movements					0.32	0.37
E/W Critical Movements					0.20	0.33
Right Turn Critical Movement					0.01	0.00
Clearance Interval					0.05	0.05
ICU					0.58	0.75
Level of Service (LOS)					A	C

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

(1) Actual geometrics are 1-SBL, 1-SBL/T and 1-SBT.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 2
 North/South Roadway: Paseo de Valencia
 East/West Roadway: El Toro Road

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio		
			AM	PM	AM	PM	
NBL	2	3,400	660	970	0.19	0.29	*
NBT	1	1,700	1,060	390	0.62	0.23	*
NBR	1 P	1,700	540	620	0.00	0.00	
SBL	1	1,700	10	20	0.01	0.01	*
SBT	3	5,100	620	1,130	0.12	0.22	*
SBR	1 P	1,700	60	110	0.00	0.00	
EBL	2	3,400	40	70	0.01	0.02	
EBT	3	5,100	530	600	0.10	0.12	*
EBR	1 P	1,700	390	570	0.00	0.00	
WBL	2	3,400	330	640	0.10	0.19	*
WBT	4	6,800	220	430	0.03	0.06	
WBR	0	0	10	10	0.00	0.00	
N/S Critical Movements					0.63	0.51	
E/W Critical Movements					0.20	0.31	
Right Turn Critical Movement					0.00	0.00	
Clearance Interval					0.05	0.05	
ICU					0.88	0.87	
Level of Service (LOS)					D	D	

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

PREFERRED GENERAL PLAN INTERSECTION CAPACITY UTILIZATION

Intersection Number: 3
 North/South Roadway: Avenida de la Carlota
 East/West Roadway: Paseo de Valencia

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	180	150	0.11	0.09 *
NBT	2	3,400	600	530	0.18 *	0.16
NBR	1 P	1,700	480	420	0.04 *	0.04
SBL	1	1,700	240	360	0.14 *	0.21
SBT	2	3,400	330	1,210	0.10	0.36 *
SBR	1 P	1,700	210	850	0.00	0.05 *
EBL	2	3,400	860	310	0.25 *	0.09 *
EBT	1	1,700	550	330	0.32	0.19
EBR	1 P	1,700	310	150	0.00	0.00
WBL	3	5,100	330	280	0.06	0.05
WBT	2	3,400	310	260	0.21 *	0.17 *
WBR	0	0	390	330	0.00	0.00
N/S Critical Movements					0.32	0.45
E/W Critical Movements					0.46	0.26
Right Turn Critical Movement					0.04	0.05
Clearance Interval					0.05	0.05
ICU					0.87	0.81
Level of Service (LOS)					D	D

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

PREFERRED GENERAL PLAN INTERSECTION CAPACITY UTILIZATION

Intersection Number: 16
 North/South Roadway: Moulton Parkway
 East/West Roadway: Lake Forest Drive

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio		
			AM	PM	AM	PM	
NBL	2	3,400	10	10	0.00	0.00	*
NBT	4	6,800	1,810	410	0.27	0.06	
NBR	1 P	1,700	990	440	0.20	0.02	*
SBL	2	3,400	250	500	0.07	0.15	
SBT	4	6,800	300	1,600	0.05	0.25	*
SBR	0	0	50	100	0.00	0.00	
EBL	2	3,400	200	70	0.06	0.02	
EBT	3	5,100	420	350	0.08	0.07	*
EBR	1 P	1,700	10	10	0.00	0.00	
WBL	2	3,400	400	610	0.12	0.18	*
WBT	3	5,100	270	310	0.05	0.06	
WBR	1 P	1,700	610	160	0.23	0.00	
N/S Critical Movements					0.34	0.25	
E/W Critical Movements					0.20	0.25	
Right Turn Critical Movement					0.23	0.02	
Clearance Interval					0.05	0.05	
ICU					0.82	0.57	
Level of Service (LOS)					D	A	

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

PREFERRED GENERAL PLAN INTERSECTION CAPACITY UTILIZATION

Intersection Number: 17
 North/South Roadway: Moulton Parkway
 East/West Roadway: Ridge Route Drive

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	140	90	0.04	0.03 *
NBT	4	6,800	2,520	540	0.37 *	0.08
NBR	1 P	1,700	340	130	0.00	0.00
SBL	2	3,400	50	130	0.01 *	0.04
SBT	4	6,800	390	1,860	0.07	0.28 *
SBR	0	0	60	70	0.00	0.00
EBL	1	1,700	50	90	0.03 *	0.05
EBT	2	3,400	140	250	0.04	0.07 *
EBR	1 P	1,700	50	250	0.00	0.05 *
WBL	2	3,400	140	380	0.04	0.11 *
WBT	2	3,400	230	180	0.07 *	0.05
WBR	1 P	1,700	80	40	0.00	0.00
N/S Critical Movements					0.38	0.31
E/W Critical Movements					0.10	0.18
Right Turn Critical Movement					0.00	0.05
Clearance Interval					0.05	0.05
ICU					0.53	0.59
Level of Service (LOS)					A	A

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 18
 North/South Roadway: Avenida de la Carlota
 East/West Roadway: Ridge Route Drive

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio		
			AM	PM	AM	PM	
NBL	1	1,700	400	180	0.24	0.11	*
NBT	2	3,400	1,050	310	0.31	0.09	*
NBR	1	P 1,700	870	620	0.04	0.09	*
SBL	1	1,700	220	230	0.13	0.14	*
SBT	2	3,400	280	730	0.10	0.25	*
SBR	0	0	60	110	0.00	0.00	
EBL	1	1,700	110	170	0.06	0.10	
EBT	2	3,400	220	330	0.06	0.10	*
EBR	1	P 1,700	280	520	0.00	0.10	*
WBL	2	3,400	570	640	0.17	0.19	*
WBT	1	1,700	120	130	0.07	0.08	
WBR	1	U 1,700	230	260	0.00	0.01	
N/S Critical Movements					0.44	0.36	
E/W Critical Movements					0.23	0.29	
Right Turn Critical Movement					0.04	0.10	
Clearance Interval					0.05	0.05	
ICU					0.76	0.80	
Level of Service (LOS)					C	C	

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

XIII. MITIGATION MONITORING PROGRAM

DRAFT MASTER EIR

XIII. MITIGATION MONITORING PROGRAM

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Community Development and Design				
Population				
Mitigation for impacts associated with the increase of population within the General Plan study area are related to Circulation/Transportation,Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, Hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.				
Housing				
Mitigation for impacts associated with the increase in the number of dwelling units within the General Plan study area are related to Circulation/Transportation,Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, Hazardous Materials, and Airport Hazards Management, and are included in those sections of the Master EIR.				
Land Use				
Mitigation for impacts associated with land use changes within the General Plan study area are related to Circulation/Transportation,Infrastructure, Educational Facilities, Parks and Recreation, Fire Prevention and Suppression, Police Services and Crime Prevention, Emergency Facilities and Services, General City Services and Facilities, Open Space, Air Quality, Biological Resources, Mineral Resources, Historic Resources, Geology and Seismicity, Stormwater Management and Flooding, Noise, hazardousMaterials, and Airport Hazards Management, and are included in those sections of the Master EIR.				
Community Design				
Implementation of the Laguna Hills General Plan is expected to produce beneficial aesthetic impacts. Therefore, no mitigation is necessary.				
Growth Management				
Mitigation for impacts associated with the adoption of a growth management strategy are related to Circulation/Transportation,and Infrastructure, and are included in those sections of the Master EIR.				

June 28, 1994

DRAFT MASTER EIR

¹ Detailed definitions and procedures are found in the *Measure M Growth Management Program Preparation Manual*, February, 1993.

XIII-2

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Circulation/Transportation(Continued) (F.6) The City of Laguna Hills shall implement the adopted Transportation Demand Management Ordinance (Ordinance Number 91-1).	— Participation in Growth Management Area (GMA) 10 Inter-jurisdictional forums.			
	Collect traffic volume data on master planned facilities. As levels of service approach LOS E, the City will conduct special corridor studies to identify potential arterial and intersection deficiencies and capital improvement projects to mitigate these impacts. These special corridor studies will, at a minimum, identify the improvement, provide estimates of the costs of improvements, and identify potential funding mechanisms for implementation.	Engineering Department	Engineering Department	Annually
	Prepare and submit to the County of Orange a CMP consistency report that at a minimum incorporates the CMP checklist requirements included in the <i>Orange County Congestion Management Program Preparation Manual 1992</i>.	Engineering Department	Engineering Department	Annually
	Prepare a consistency review of the arterial highway system. This report will be submitted to the Orange County Transportation Authority (OCTA) and will document ongoing, annual efforts to achieve the requirements set forth in the <i>Measure M Growth Management Program Preparation Manual</i>, February, 1993.	Engineering Department	Engineering Department	Annually
	Examine the City's Signal Maintenance Program. Efficiency of the City's signals will be evaluated and adjustments recommended, as needed, to maximize transportation efficiency levels of service.	Engineering Department	Engineering Department	Annually
	Provide an annual report detailing the City's implementation status of regional transportation policies. Include, at a minimum, the following information: — based on ongoing monitoring, identification of roadway segments and intersections that exhibit unacceptable levels of service and needed improvements;	Engineering Department	Engineering Department	Annually

June 28, 1994

DRAFT MASTER EIR

June 28, 1994

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Educational Facilities (H.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of educational facilities provided to existing development. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.	Prior to approval of any new development or redevelopment project, the applicant shall review the proposed project with representatives of the SVUSD to determine whether all needed facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.	Planning Department	Planning Department	Prior to project approval

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Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Parks and Recreation (I.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of committed park and recreation facilities and services provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.	Prior to approval of any new development or redevelopment project, the applicant shall review the proposed project with the Parks and Recreation Department to determine whether all facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by the project.	Parks and Recreation	Parks and Recreation	Prior to project approval

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Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Fire Prevention and Suppression (J.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of fire prevention and suppression services provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development. (J.2) Roadways and internal circulation systems shall be designed to accommodate fire suppression equipment with adequate turnaround areas, as determined by the Orange County Fire Department. (J.3) All new developments shall be provided with the water facilities needed to meet fire flow requirements as determined by the Orange County Fire Department.	Prior to approval of any new development or redevelopment permit, the Development Services Department shall review the proposed project with representatives of the Orange County Fire Department to determine whether all facilities and services needed to support the project will be provided in a timely manner. In cases where the new capital facilities needed by new development are greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project. Conduct an annual review of local and areawide facilities and services, which includes: ■ evaluating adequacy of facilities and equipment; personnel staffing and program needs; and five year equipment, facility, and staffing needs based on anticipated growth and desired level of service. ■ review of infrastructure plans of other agencies, districts, and special districts for consistency with General Plan Goals and Strategies pursuant to State Government Code Section 65401.	Planning and Building and Safety Departments in coordination with service provider. Planning and Building and Safety Departments in coordination with service provider.	Planning and Building and Safety Departments in coordination with service provider. Planning and Building and Safety Departments in coordination with service provider.	Prior to project approval. Annually

June 28, 1994

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Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Emergency Facilities and Services (L.1) The City of Laguna Hills shall maintain readiness to provide emergency services by adopting and implementing a comprehensive City Emergency Operations Plan. (L.2) The City of Laguna Hills shall maintain mutual aid agreements with regional emergency agencies to ensure the City's ability to receive assistance when demands for emergency services are greater than that of the City's available resources. (L.3) The City of Laguna Hills shall require all new development projects to provide at least two points of ingress and egress to provide adequate access in the event of an emergency situation.	Provide an annual emergency preparedness report regarding the efforts made throughout the year to adopt and implement the Emergency Operations Plan. At a minimum this report should include: ■ status of emergency facilities and services that serve the City; ■ summary of preparedness activities and training held throughout the year; ■ recommendations to improve program efficiency; and ■ proposed programs for the coming year.	Emergency Management	Emergency Management	Annually

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Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
General City Services and Facilities (M.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of general City services and facilities provided to existing development. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.	Prior to approval of any new development or redevelopment permit, the Development Services Department shall review the proposed project with relevant service providers to determine whether all facilities and services needed to support the project will be provided in a timely manner. In cases where the cost of new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.	General Services	General Services	Prior to project approval

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Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
EnvironmentalResources				
Open Space				
Implementation of the Laguna Hills General Plan will not adversely impact open space within the study area. Therefore no mitigation measures are needed.				
Air Quality				
(O.1) The City of Laguna Hills shall require that all proposed development or redevelopment projects include transportation mitigation measures contained in the Laguna Hills Master EIR.	Air quality mitigation standards for construction activities shall apply to all construction activity. The following criteria will be used to determine the level of mitigation that will be required from any particular project:	Planning Department and Engineering Department	Planning Department and Engineering Department	Prior to project approval.
(O.2) Prior to issuance of a building permit for any development or redevelopment project, the City of Laguna Hills shall require that the applicant demonstrate incorporation of site design features that encourage use of alternative forms of energy and modes of transportation as suggested by the Air Quality Management Plan. Compliance will require the applicant to identify the site design features incorporated within the proposed building and design for approval by the City Building Official. Site design features to be considered shall include, but not be limited to, the following:				
■ use turf block instead of paving for driveways with limited use or emergency access only;	■ the intensity of mitigation measures shall coincide with the intensity of air quality impacts;			
■ provide pedestrian walkways both within the development and connecting to nearby commercial uses;	■ the combination of mitigation measures that are employed should reduce construction emissions below the thresholds of significance maintained by the South Coast Air Quality Management District;			
■ provide teleconferencing or video conferencing facilities or equipment;	■ adequate resources must be available to ensure implementation of required mitigation;			
	■ required mitigation measures must be able to be reasonably accomplished within a reasonable time frame; and			
	■ compliance with required mitigation must be verifiable and enforceable by a legally binding commitment.			

June 28, 1994

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Air Quality (Continued) ■ contribute to centralized telecommuting facility in the City; ■ require percentage of parking spaces reserved for carpools/van pools; ■ provide bicycle racks; ■ provide shower/locker room facilities for employees; ■ provide bikeways and pedestrian oriented design plans; ■ provide on-site truck stacking and/or loading zones; and ■ use alternatively fueled (low emission) vehicles or electric (zero emission) vehicles. (O.3) Prior to approval of any development or redevelopment project, the City of Laguna Hills shall require that project designs incorporate the input of a certified arborist, landscape architect, and/or qualified horticulturist into the review and approval of landscape proposals through the design review process. The design shall indicate how plant materials and other landscape architectural features will be utilized to promote cooling during hot periods and prevent wind chill during the cool season. The following techniques shall be considered in the design of development projects. ■ Incorporate the use of deciduous trees in landscaping plans, especially near buildings and around expanses of paved areas. ■ Incorporate deciduous vines, trellises, and canopies to shade south and westward facing walls, to cool them in summer months. ■ Provide wind breaks to protect against winter and Santa Ana winds.	See Page XIII-11	See Page XIII-11	See Page XIII-11	See Page XIII-11

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Air Quality (Continued) ■ Trees and hedges planted close to buildings should be located so as to channel beneficial cooling breezes through openings. ■ Improve solar gain through tree plantings adjacent to buildings (O.4) Prior to issuance of a building permit for any new development or redevelopment, the Laguna Hills City Building official shall examine building/architectural plans to ensure that building design and construction materials reflect State Title 24 energy conservation requirements and current energy efficiency design to the maximum extent feasible. Measures to be considered include, but are not limited to, the following: ■ installation of non-concentrating solar collectors, low NOx heaters, or a combination of both in new swimming pools; ■ installation of solar water heating equipment or non-concentrating solar collectors in conjunction with conventional water heaters; ■ installation of double pane windows; ■ installation of high efficiency heat pumps, furnaces and water heaters, air conditioners, refrigerators, and clothes dryers or other energy efficient appliances and equipment; ■ installation of energy efficient ceiling and wall materials and duct insulation; ■ increase in thermal integrity through standard weatherization measures and advanced window glazing; ■ insulation of solid concrete walls with both exterior and interior products; ■ incorporation of passive solar designs, such as wall thickness, use of construction materials that absorb or reflect sunlight, building orientation, and roof overhangs;	Provide an Air Quality Program Review, which at a minimum includes: ■ a review of air quality implementation actions of the previous year as to the effectiveness of each action in reducing local emissions and achieving trip reduction targets; ■ a selection of new implementation actions from the master list of actions contained in the South Coast Air Quality Management Plan to be implemented in the coming year; and ■ setting schedules and allocating staff resources for the implementation of actions selected.	Planning Department Engineering Department	Planning Department Engineering Department	Annually

June 28, 1994

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Air Quality (Continued) ■ use of time clocks and/or occupant sensors; ■ utilization of energy efficient water and space heating, refrigeration, cooling or cooking equipment; and ■ use of waste heat recovery systems. (O.5) The City of Laguna Hills shall reduce on-road mobile source emissions during the construction of new development and redevelopment projects by implementing the following measures, wherever feasible: ■ configure construction parking areas to minimize traffic interference along public access streets; ■ provide temporary traffic control (e.g., flag man) during all phases of construction to improve traffic flow where construction activities may interfere with on-road travel; ■ schedule construction activities that could affect traffic flows to non-peak travel hours (10:00 a.m. to 3:00 p.m. in residential and non-residential areas and 7:00 p.m. to 6:00 a.m. in non-residential, non-noise sensitive areas); ■ develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees; ■ develop a construction traffic management program that includes, but is not limited to, rerouting construction-related traffic off congested streets, consolidating truck deliveries, and providing temporary dedicated turn lanes for movement of construction traffic to and from the site; ■ prohibit truck idling in excess of two minutes; ■ implement a shuttle service to and from restaurants and retail services during lunch hours;	See Page XIII-13	See Page XIII-13	See Page XIII-13	See Page XIII-13

June 28, 1994

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Air Quality (Continued) ■ sweep streets at the end of the day if visible soil material is carried onto adjacent paved public roads; and or ■ install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and other equipment leaving the site. (O.6) The City of Laguna Hills shall reduce off-road mobile source emissions during project construction of new development and redevelopment projects by implementing the following measures, wherever feasible: ■ use electricity from power poles rather than temporary diesel or gasoline power generators; ■ use methanol or natural gas powered mobile equipment rather than diesel or gasoline powered equipment; ■ apply non-toxic soil stabilizers according to manufacturers' specifications to all previously graded areas that have been inactive for ten (10) days; ■ replace ground cover in disturbed areas immediately at the suspension of construction in the area; ■ water active sites at least twice daily; ■ enclose, cover, water twice daily, or apply non-toxic soil stabilizers according to manufacturers' specifications to exposed soils materials with a five percent or greater silt content; ■ suspend grading activities when wind speeds (instantaneous gusts) exceeds 25 miles per hour; ■ apply water three times daily or non-toxic soil stabilizers according to manufacturers' specifications to unpaved construction roadways;	See Page XIII-13	See Page XIII-13	See Page XIII-13	See Page XIII-13

June 28, 1994

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Air Quality (Continued) - enforce a 15 miles per hour speed limit on unpaved portions of the construction site; - pave construction roads that have a traffic volume of more than 50 daily trips by construction equipment or more than 150 total daily trips.	See Page XIII-13	See Page XIII-13	See Page XIII-13	See Page XIII-13
Biological Resources (P.1) Areas that have been identified as environmentally sensitive (Figure IV-P-1 of the Master EIR) and that have viable habitats are to be protected in place unless one or more of the below listed conditions can be met. Viable habitats are defined as the vegetative resources that contribute to habitat carrying capacity (vegetative species diversity, faunal resting areas, foraging areas, and food sources) and other significant biotic features. - the area has been designated as having little or no value as viable habitat and could not be improved; - the disruption of the habitat will be mitigated elsewhere on the site so as to create an improvement of the overall habitat; - the site has been included in a local or regional habitat conservation plan where disruption of the site will be offset by improvements elsewhere in the planning area; - the site has been determined in the City's Open Space Management Plan as having no existing viable habitat worthy of preservation or improvement; or - an environmental finding is made, that includes a statement of overriding considerations that outweigh the development impact.	The City of Laguna Hills shall review and update the Open Space Lands Inventory on an annual basis along with measures that have been adopted to preserve biotic resources.	Planning Department	Planning Department	Annually

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Biological Resources (Continued) (P.2) The City of Laguna Hills shall require that development within or adjacent to identified environmentally sensitive areas provide a 100 foot setback from viable biological habitat. Such setbacks will, preferably, be accompanied by protective fencing or other buffers during the construction of the development. Where riparian vegetation has previously been removed, except for channelization the buffer that is provided shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.	See Page XIII-16	See Page XIII-16	See Page XIII-16	See Page XIII-16
Energy Resources (Q.1) The City of Laguna Hills shall require that all new development employ energy conservation measures to meet Title 24 requirements of the California Government Code.	Prior to the issuance of building permits, applicants shall provide documentation to the City of Laguna Hills Building Official that all proposed structures meet or exceed Title 24 requirements of the California Government Code regarding energy conservation.	Building and Safety	Building and Safety	Prior to the issuance of building permits.
Water Resources (R.1) The City of Laguna Hills shall require all new development projects to install reclaimed water systems for irrigation purposes if such reclaimed water is or can be made available by the Moulton Niguel and El Toro Water Districts within five years of the irrigation system construction. (R.2) The City of Laguna Hills shall require that new development follow the requirements of the County's National Pollutant Discharge Elimination System permit and implementation programs. All new development shall incorporate urban Best Management Practices (BMPs) to minimize construction and urban pollutants in storm water runoff. (R.3) The City of Laguna Hills shall require that all water conservation measures shall be consistent with those described in the <i>Memorandum of Understanding Regarding Urban Water Conservation in California</i> as adopted by the Municipal Water District of Orange County and recommended by the City of Laguna Hills.	Prior to project approval, the applicant shall provide documentation to the City of Laguna Hills Community Development Department that the following systems have been included in the project design: on- and off-site storm drain systems that meet current NPDES requirements, an irrigation system designed to accommodate reclaimed water should it become available, and project plantings that are consistent with adopted City landscape and water conservation measures.	Planning Department	Planning Department	Prior to project approval

June 28, 1994

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Mineral Resources				
Although mineral resources exist in the study area, the developed nature of the area precludes the potential for mineral extraction in the future. Therefore, no mitigation measures are necessary.				
Historic Resources				
(T.1) The City of Laguna Hills shall require the following condition of approval on all new development projects, including intensification of existing development: "If cultural resources are discovered during project construction, all work in the area of the find shall cease, and a qualified archaeologist or paleontologist as approved by the City of Laguna Hills shall be retained by the project sponsor to investigate the find, and to make recommendations on its disposition. If human remains are encountered during construction, all work shall cease and the Orange County Coroner's Office shall be contacted pursuant to procedures set forth in Section 7050.5 of the Health and Safety Code."	The City Building Official shall monitor the construction of all development and redevelopment projects. Where archeological or paleontological resources are discovered, all approvals shall be set aside subject to the recommendations and disposition of a qualified archeologist, paleontologist or, in the case of human remains, the County Coroner.	Building and Safety Department	Building and Safety Department	During construction

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Environmental Hazards				
Geology and Seismicity (U.1) The City of Laguna Hills shall require that all new structures comply with the latest Uniform Building Code seismic design standards, as well as supplemental design criteria necessary to ensure that: ■ all uses needed for emergency response are designed to withstand sufficient "g" force to remain functional; and ■ the guidelines of Table IV-U-2 of the Master EIR are met.	The City of Laguna Hills shall require new development or (when applicable) redevelopment to submit site-specific soils studies concurrent with submittal of grading and/or building permit applications to determine on-site soils and geologic conditions and to define the site-specific design criteria needed to avoid the unacceptable risks outlined in Table IV-U-2 of the Final Master EIR.	Engineering Department	Engineering Department	Concurrent with the submittal of grading and/or building permits.
Stormwater Management and Flooding (V.1) Development projects within the City of Laguna Hills shall not result in a quantifiable reduction in the level of the management of stormwater and flooding provided to existing development and as identified in the Environmental Analysis Section of the Master EIR. Therefore, development projects within the City of Laguna Hills shall be required to: ■ construct and/or pay for the new on-site capital improvements that are required to support the project; ■ ensure that all new off-site capital improvements that are required by the project are available prior to certificates of occupancy; ■ be phased so as to ensure that the capital facilities that will be used by the new development are available prior to certificates of occupancy; and ■ ensure that, in the event that public services or off-site capital facilities are impacted prior to development, the level of service provided to existing development will not be further impacted by the new development.	Prior to approval of a development permit, the Development Services Department shall review the proposed project with the Orange County Flood Control Department to determine whether all needed facilities and services needed to support the project will be provided in a timely manner. In cases where new capital facilities needed by new development is greater than the new development's "fair share" of those facilities, at the City's discretion, a reimbursement agreement or other financial mechanism may be established to enable the developer to recoup the cost of providing capital facilities beyond the need directly created by his project.	Engineering Department in coordination with service provider	Engineering Department in coordination with service provider	Prior to approval of development permit.

June 28, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Mitigation Measure	Mitigation Monitoring Program	Responsible Party for		Timing for Mitigation Measure
		Implementation	Monitoring	
Noise (W.1) The City of Laguna Hills shall require that all development projects determined to exceed the mitigation standards as described in Table IV-W-6 of the Master EIR shall incorporate, but not be limited to, those mitigation measures identified in Table IV-W-7 of the Master EIR. Mandatory mitigation shall apply to all described and applicable project conditions. Recommended mitigation shall apply to the extent that further mitigation is necessary to achieve noise levels that are insignificant. (W.2) The City of Laguna Hills shall not permit any proposed use or activity that generates noise in excess of 60 dBA CNEL into a known wildlife nesting or migration area or desirable open space area as necessary to maintain tranquility, viable wildlife habitat and wildlife mobility.	Prior to the issuance of a building permits, the City Building Official shall verify that proper acoustical study and documentation exist to bring project noise impacts to within the standards identified in Table IV-W-5.	Building and Safety Department	Building and Safety Department	Prior to the issuance of building permits.
Hazardous Materials (X.1) The City of Laguna Hills shall require that all commercial, office, and business park uses comply with the provisions of the Orange County Hazardous Waste Management Plan and the most current amendments to the California Code of Regulations, Title 22. (X.2) Concurrent with submittal of development applications, project applicants will be required to submit a history of on-site soil use and, if warranted, a soil survey to determine the potential presence of hazardous substances in the soil. (X.3) The City of Laguna Hills shall reduce the risk associated with the accumulation of household hazardous waste by continuing to play an active role in the implementation of the County of Orange Household Hazardous Waste Program.	As a participant in the County's Hazardous Waste Management Plan, the City of Laguna Hills shall require that prior to the issuance of certificates of occupancy, uses which use hazardous materials demonstrate that they are consistent with City, County, State, and Federal laws regarding the use, manufacture, sale and disposal of hazardous substances.	Planning Department and Building and Safety Department	Planning Department and Building and Safety Department	Prior to the issuance of building permits.
Airport Hazards Management (Y.1) Prior to the full closure of the MCAS, El Toro, and the cessation of all military air operations affecting the City, the City of Laguna Hills shall require that all development within established MCAS, El Toro flight path conform to the height, density, intensity, and noise mitigation standards outlined in the military's AICUZ study.	Prior to the issuance of project approvals, the Planning Department shall verify that all provisions of the AICUZ study (where applicable) have been integrated into the project design.	Planning Department	Planning Department	Prior to issuance of project approval.

June 28, 1994

APPENDICES

A. TRAFFIC ANALYSIS

**LAGUNA HILLS TRAFFIC ANALYSIS MODEL
MODEL DESCRIPTION REPORT**

March 9, 1994

Prepared for:

*The City of Laguna Hills
25201 Paseo de Alicia Suite 150
Laguna Hills, CA 92653
(714) 707-2600*

Prepared by:

*LSA Associates, Inc.
3403 10th Street, Suite 520
Riverside, California 92501
(909) 781-9310
LSA Project #TPN202*

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
Model Purpose	1
Model Structure	1
LHTAM Software	5
NETWORK DEVELOPMENT	5
LHTAM Networks	5
Link Attributes	6
LAND USE/SOCIOECONOMIC DATA	10
Socioeconomic Data Conversion	10
Existing Socioeconomic Data	11
Preferred General Plan Socioeconomic Data	13
TRIP TABLE DEVELOPMENT	13
Trip Generation	13
Trip Distribution	15
LHTAM Trip Table Development	15
TRIP ASSIGNMENT	21

APPENDICES

A - LHTAM ZONAL CORRESPONDENCE TABLES

B - NETWORK PLOTS

C - ZONAL LAND USE DATA

LISTS OF FIGURES AND TABLES

PAGE

LIST OF FIGURES

1 -	LHTAM Secondary Area Traffic Analysis Zones	3
2 -	LHTAM Primary Area Traffic Analysis Zones	4
3 -	Preferred General Plan Daily Traffic Volumes	23
4 -	Laguna Hills Existing 1992 Daily Traffic Volumes	25

LIST OF TABLES

A -	Facility Type Codes	7
B -	Area Type Codes	8
C -	LHTAM Speeds and Capacities	9
D -	Socioeconomic Data Conversion Factors	11
E -	Existing LHTAM Primary Area Socioeconomic Data	12
F -	Preferred General Plan LHTAM Primary Area Socioeconomic Data	14
G -	Existing LHTAM Primary Area Daily Productions and Attrac- tions	16
H -	OCTAM II Post-2010 Daily Productions and Attractions for LHTAM Primary Area	17
I -	Preferred General Plan LHTAM Primary Area Daily Productions and Attractions	18
J -	Trip Table Conversion Factors	21
K -	General Plan Intersection Level of Service Analysis	24

LAGUNA HILLS TRAFFIC ANALYSIS MODEL MODEL DESCRIPTION REPORT

INTRODUCTION

This report provides a detailed technical description of the City of Laguna Hills Traffic Analysis Model (LHTAM). The primary purpose of this report is to document how the model was developed, as well as to describe the modeling procedures and data inputs used in the model. This report also provides a comparison with the regional model from which LHTAM was developed.

Model Purpose

The LHTAM was developed for two specific purposes:

1. To analyze the traffic and circulation implications associated with build out of City of Laguna Hills per the proposed General Plan land use designations and intensities; and
2. To assist in the development of a General Plan Circulation Element, particularly with respect to roadway and intersection sizing.

Model Structure

The LHTAM is a "windowed" area model, extracted from the Orange County Transportation Analysis (OCTAM) II model (a detailed discussion of the OCTAM II model is contained in *OCTAM II Model Description and Validation Report*, Orange County EMA Transportation Planning, November, 1991). The OCTAM II model was developed from the Southern California Association of Governments (SCAG) regional model to provide a county-wide traffic modeling tool for Orange County. The OCTAM II model covers the entire SCAG modeling area, but uses a "focused" approach which provides a more refined representation of Orange County. This focused area provides sufficient detail to assess localized traffic impacts.

Similar to the relationship between OCTAM II and its parent SCAG model, the LHTAM was developed to provide greater detail with which to examine local traffic impacts. In this case, the localized impacts being examined are those within the City of Laguna Hills. Whereas the OCTAM II model includes all of the SCAG modeling area, the LHTAM model does not include the entire SCAG area, nor does it include all of Orange County. Since the purpose of the LHTAM is to examine localized traffic conditions within the City of Laguna Hills, it was determined in consultation with the Orange County Environmental Management Agency (EMA) Transportation Planning group (the agency responsible for maintaining OCTAM II) that a "windowed" area approach would provide sufficient model capabilities.

A "windowed" model is developed from a parent model in such a manner that the area of concern is extracted from the parent model. This extracted model retains the parent model's zonal structure for the area of concern. The connection between this extracted area is provided via "cordons", which provide a representation of traffic entering and exiting the windowed area. The extraction process used provides for cordon volumes based on volumes from the parent model.

Based on conversations with EMA Transportation Planning staff, it was determined that at least 90 percent of the trips generated by the primary area of concern (in this case, the City of Laguna Hills) should have origins or destinations within the windowed model area. No more than 10 percent of the trips should be to and from areas external to the modeled area. Using this criteria, EMA Transportation Planning staff performed an analysis of the OCTAM II modeled trips to and from the City of Laguna Hills and defined a model area comprised of all of Orange County south and east of the Santa Ana River. The resulting area is comprised of 604 OCTAM II traffic analysis zones (TAZs).

For purposes of LHTAM model development, the modeled area is divided into two areas. The first is the "primary area", comprised of the City of Laguna Hills and the proposed Annexation Area, and contains portions of 15 OCTAM II TAZs. The remainder of the modeled area as extracted from OCTAM II is the "secondary area", and contains 589 OCTAM II TAZs.

The TAZs and the arterial highway network within the secondary area are identical to the parent OCTAM II model (with the exception that TAZ numbers are different). Within the primary area, the original OCTAM II TAZs were disaggregated to provide a more refined zonal structure with which to assess local land use development and the resulting traffic and circulation impacts. The refined zonal structure for the primary area contains 47 TAZs. In addition, several of the OCTAM zones containing the primary area also contain areas outside the City of Laguna Hills. When these OCTAM zones were refined for the primary area, an additional 10 zones were created within the secondary area. These refinements result in a total of 661 TAZs for the entire LHTAM area.

The OCTAM II TAZs were disaggregated based on observation of local access to and from each of the TAZs, thereby providing a zonal structure which more accurately represents access and travel patterns for these areas. For the most part, the arterial highway network within the primary area was unaffected, although a number of roadways in the vicinity of the Laguna Hills Mall and in the Annexation Area were added, again, to more accurately represent local access and travel patterns in this area.

Figure 1 illustrates the LHTAM zone system for the secondary area. Figure 2 illustrates the detailed zone system for the primary area. This figure also illustrates the aggregation of LHTAM zones to OCTAM II zones. Appendix A contains an LHTAM to OCTAM II zonal correspondence table.

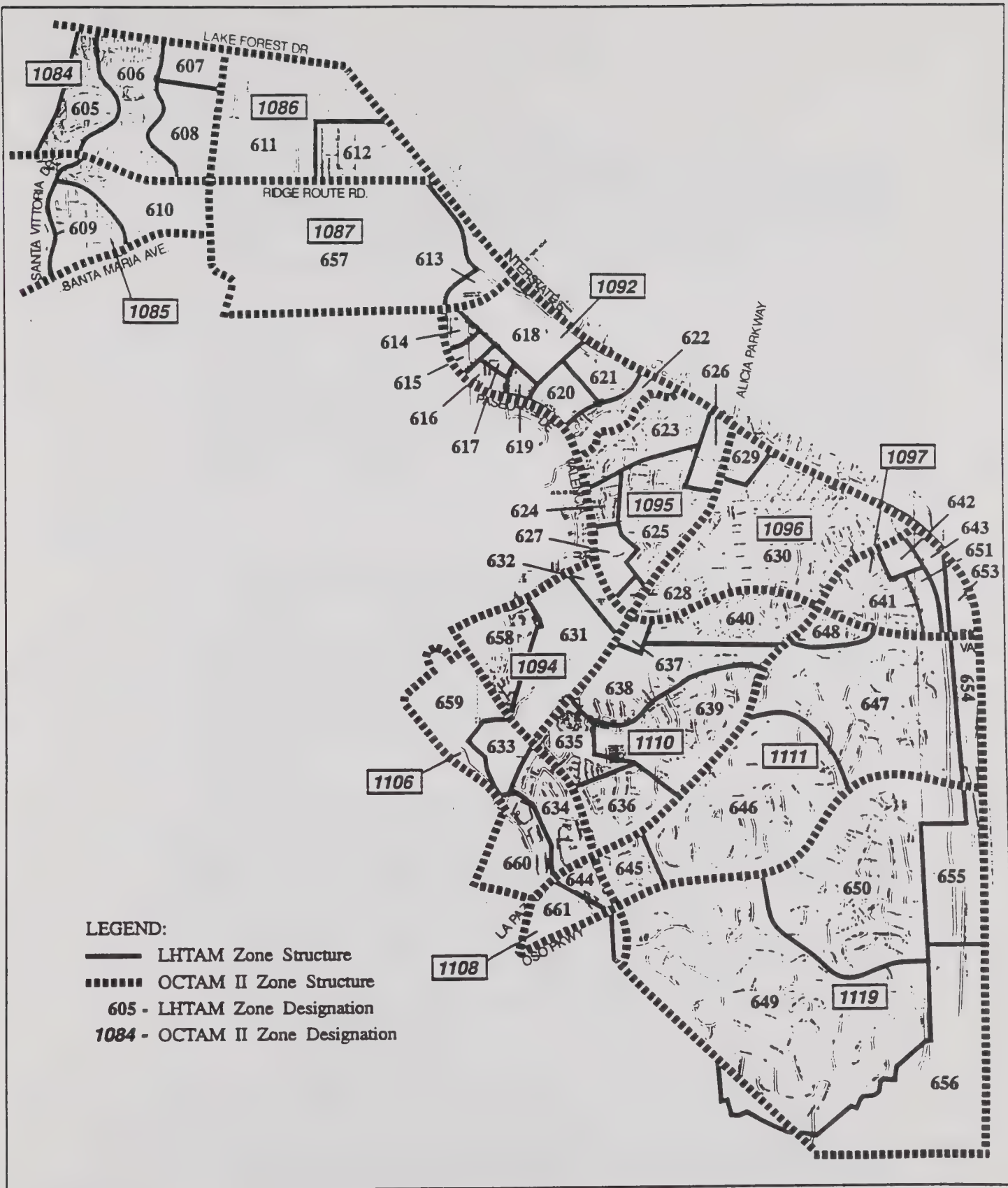


11/16/93(TPN202)



Figure 1

LHTAM Secondary Area
Traffic Analysis Zones



11/16/93(TPN202)

Figure 2



LSA

Scale in Feet
0 1500 3000

LHTAM Primary Area
Traffic Analysis Zones

LHTAM Software

The OCTAM II model is run using the Urban Transportation Planning System (UTPS) software, which was developed by the Federal Urban Mass Transportation Administration. The LHTAM model, while extracted from the OCTAM II model, was developed and is run using the TRANPLAN (version 7.2) software, developed and marketed by The Urban Analysis Group.

NETWORK DEVELOPMENT

This section describes the arterial highway network contained in the LHTAM model, as well as the various coding parameters used to provide a computerized representation of the arterials, freeway, and transportation corridors contained in modeled area.

LHTAM Networks

The LHTAM model contains two basic networks: 1) the existing network, corresponding to the year 1990 (the base year used by OCTAM II), and 2) the future network corresponding to OCTAM's Post-2010 scenario and to build out of the City's General Plan. As discussed previously, the basic networks for the modeled area were extracted directly from the OCTAM II parent model (i.e., the existing network was extracted from the OCTAM II 1990 network and the future network was extracted from the OCTAM Post-2010 network).

The arterial highway network within the LHTAM secondary area was retained as contained in the parent OCTAM II model. The arterial network within the primary area was refined to provide a more accurate representation of key roadways in the City of Laguna Hills and its Annexation Area. The principal modifications to the LHTAM primary area network are:

1. Re-coding of the I-5 interchanges at El Toro Road , Alicia Parkway, and La Paz Road to represent actual ramp configurations (the OCTAM II model uses a generic diamond interchange configuration to represent these interchanges).
2. Addition of Avenida de la Carlota between El Toro Road and Los Alisos Boulevard.
3. Addition of local roadways within the Laguna Hills Mall area, including Calle de la Louisa, Calle de la Plata, Health Center Drive, and Calle de los Caballeros.
4. Addition of Aliso Hills Drive between Alicia Parkway and La Paz Road.

5. Addition of Santa Vittoria Drive between Lake Forest Drive and Santa Maria Avenue.
6. Addition of Mill Creek Drive between Lake Forest Drive and Ridge Route Drive.
7. Addition of San Remo Drive between Santa Vittoria Drive and Santa Maria Drive.

Link Attributes

The arterial highways contained in a network are comprised of roadway sections, called "links". Each link is coded with information pertaining to the physical characteristics of the roadway, as follows:

- **Distance** - the length of the roadway segment in miles
- **Facility Type** - a code indicating the roadway's functional classification
- **Speed** - the average free-flow speed for the roadway segment
- **Number of Lanes**
- **Area Type** - a code indicating the general types of land use adjacent to the roadway segment (i.e., residential, commercial, industrial, etc.)
- **Direction Code** - a code indicating whether the roadway section accommodates one-way or two-way traffic
- **Capacity** - maximum number of vehicles which can be accommodated during the time period for which the network is used (i.e., AM peak period, PM peak period, and off-peak)

Several of these attributes are worth additional discussion, which is provided below.

Facility Types

The facility type designations for roadway links are based on the functional classifications contained in the Orange County Master Plan of Arterial Highways (MPAH). The facility types used in the LHTAM model are taken directly from the coding used in OCTAM II. Table A provides a summary of these facility types, along with a description of the functional classifications.

Table A - Facility Type Codes

Facility Code	Facility Classification	Description
1	Freeway	Limited access facility
2	Major	6 lane divided arterial
3	Primary	4 lane divided arterial
4	Secondary	4 lane undivided arterial
5	Commuter	2 lane undivided arterial
6	High-flow Arterial	6 to 8 lane divided arterial, with possible signal coordination and grade separation
7	Freeway to Freeway Connector	One-way connector
8	Freeway Ramp	One-way ramp
9	Centroid Connector	Zonal access

Source: *OCTAM II Model Description and Validation Report*, Orange County EMA Transportation Planning, November, 1991.

Area Types

The area type provides an indication of the land uses adjacent to the roadway segment, which give provides an additional level of detail about the roadway's operational characteristics. For example, a roadway in an urban area would have a significant amount of side street interference due to driveways and cross-streets, affecting capacity and travel speeds. A roadway in a rural area, on the other hand, would have intersections spaced miles apart and would have minimal driveway interference. Table B provides a summary of the area types used in the LHTAM model.

Speeds and Capacities

Two additional link attributes which are important factors in the trip distribution and trip assignment procedures are speeds and capacities. In traffic modeling, there are several different methods of dealing with link speeds and capacities.

Table B - Area Type Codes

Area Code	Description
1	Central Business District (CBD)
2	Commercial
3	Industrial
4	Residential
5	Rural
6	Santiago Canyon Road
7	Speed Adjustment for Area Codes 2 through 4. Speed increased by 5 mph.
8	Speed Adjustment for Area Codes 2 through 4. Speed decreased by 5 mph.

Source: *OCTAM II Model Description and Validation Report*, Orange County EMA Transportation Planning, November, 1991.

One method, as used in the OCTAM II parent model, is to use speed and capacity tables. This method uses the facility type and area type of a link to look up appropriate speeds and capacities from a standard speed and capacity table. OCTAM II utilizes two separate speed tables (one for peak hour speeds and one for off-peak/free-flow speeds) and one capacity table (based on vehicles per lane per hour).

An alternative method, as used in TRANPLAN-based models such as the LHTAM, is to code speeds and capacities directly into the network links. The format used in TRANPLAN-based models for coding link attributes permits the coding of two separate speeds. In the case of the LHTAM model, each link is coded with a free-flow speed and with a peak hour speed (which is reduced from the free-flow speed to reflect the affects of congestion on travel speeds). Despite the fact that the LHTAM has speeds and capacities coded for each link, the assignment of speeds and capacities is based on facility type and area type, consistent with the parent OCTAM II model.

Table C summarizes the peak hour speeds, free-flow speeds, and hourly capacities by facility type and area type, as used in the OCTAM II and LHTAM models. This table also summarizes the capacities used for the AM peak period (two hours), PM peak period (three hours), and off-peak period (eight hours).

Table C - LHTAM Speeds and Capacities

Fac. Type	Area Type	Speed (mph)		Capacities (Per Lane)			
		Free-Flow	Peak Hour	Hourly	AM Peak Period	PM Peak Period	Off-Peak Period
1	1	50	45	2,000	4,000	6,000	16,000
	2,3	55	35	2,000	4,000	6,000	16,000
	4	55	40	2,000	4,000	6,000	16,000
	5	55	45	2,000	4,000	6,000	16,000
2	1	25	20	1,400	2,800	4,200	11,200
	2-4	30	25	1,400	2,800	4,200	11,200
	4	30	25	1,400	2,800	4,200	11,200
	5	35	30	1,600	3,200	4,800	12,800
	6	50	45	1,400	2,800	4,200	11,200
	7	30	25	1,600	3,200	4,800	12,800
	8	40	35	1,600	3,200	4,800	12,800
3	1	25	20	1,200	2,400	3,600	9,600
	2-4	30	25	1,200	2,400	3,600	9,600
	5	50	45	1,200	2,400	3,600	9,600
	6	30	25	1,400	2,800	4,200	11,200
	7,8	40	35	1,200	2,400	3,600	9,600
4	1	25	20	1,000	2,000	3,000	8,000
	2-4	30	25	1,000	2,000	3,000	8,000
	5	50	45	1,000	2,000	3,000	8,000
	6	30	25	1,400	2,800	4,200	11,200
	7,8	40	35	1,000	2,000	3,000	8,000
5	1	20	15	800	1,600	2,400	6,400
	2-4	25	20	800	1,600	2,400	6,400
	5	30	25	800	1,600	2,400	6,400
	6	45	40	1,200	2,400	3,600	9,600
6	1	35	30	1,600	3,200	4,800	12,800
	2-4	40	35	1,600	3,200	4,800	12,800
	5	45	40	1,600	3,200	4,800	12,800
7	1	40	25	1,600	3,200	4,800	12,800
	2-4	45	30	1,600	3,200	4,800	12,800
	5	50	35	1,600	3,200	4,800	12,800
8	1	30	10	600	1,200	1,800	4,800
	2-4	30	15	600	1,200	1,800	4,800
	4	30	15	600	1,200	1,800	4,800
	5	30	20	600	1,200	1,800	4,800
9	All	15	15	32,767	65,534	98,301	262,136

Facility Types:	1	Freeway
	2	Major
	3	Primary
	4	Secondary
	5	Commuter
	6	High-Flow Arterial
	7	Freeway to Freeway Connector
	8	Freeway Ramp
	9	Centroid Connector

Note: LHTAM uses a default capacity of 999,999 for centroid connectors, regardless of time period. This represents the provision of sufficient capacity to facilitate access to and from zonal land uses.

Source: *OCTAM II Model Description and Validation Report*, Orange County EMA Transportation Planning, November, 1991.

LAND USE/SOCIOECONOMIC DATA

Another key input in the traffic modeling process is land use and/or socioeconomic data. As part of the modeling process, land uses or socioeconomic data are input for each TAZ. The land uses or socioeconomic data are then used to calculate the total number of trips generated by each TAZ. The OCTAM II model and the LHTAM model both use socioeconomic data as the basis for trip generation. In the OCTAM II model, specific parameters used are:

- Number of single family dwelling units
- Number of multiple family dwelling units
- Population in group quarters
- Population
- Population participating in the work force
- Acreage
- Retail employment
- Total employment
- Median income (in 1979 dollars)
- Low income dwelling units (median income less than \$16,301 in 1979 dollars)
- Medium income dwelling units (median income between \$16,301 and \$33,900 in 1979 dollars)
- High income dwelling units (median income greater than \$33,900 in 1979 dollars).

The existing and post-2010 socioeconomic data used in the OCTAM II model was developed by the County of Orange based on input from all jurisdictions. Forecast future conditions are consistent with regional projections developed by SCAG. The *OCTAM II Model Description and Validation Report* provides a detailed description of the socioeconomic data used in OCTAM II.

Socioeconomic Data Conversion

The LHTAM existing conditions model is based on the same socioeconomic data sets used in the parent OCTAM II model for 1990 conditions. The LHTAM future conditions model uses the same socioeconomic data sets used in the OCTAM II model for post-2010 conditions, with the exception of the LHTAM primary area.

The socioeconomic data for the LHTAM primary area was developed using the preferred General Plan alternative land uses and intensities, using various land use to socioeconomic data conversion factors. Table D summarizes the conversion factors used to develop population, retail employment, and total employment figures.

Table D - Socioeconomic Data Conversion Factors

Parameter	Land Use	Conversion Factor
Population	Single Family DUs	3.0 persons/DU
	Multiple Family DUs	2.0 persons/DU
Retail Employment	Commercial	2.0 employees/TSF
Total Employment	Commercial	2.0 employees/TSF
	Industrial	2.5 employees/TSF
	Office	3.5 employees/TSF
	Medical Office	4.8 employees/TSF
	Mixed Use	3.5 employees/TSF

These conversion factors were taken from the working paper entitled "Land Use/Socioeconomic Data Conversion for Interim CMP Modeling Data Consistency Reconciliations" (Robert W. Goedhard, P.E., April 21, 1993), with supplementary information based on an examination of other models used and or developed by LSA.

Since the LHTAM zones are disaggregated from OCTAM II zones, income figures, population in the work force, and number of dwelling units by income stratification (low, medium and high income) for a given LHTAM zone was developed by examining the socioeconomic data for the OCTAM zone containing the LHTAM zone. The income figure used for a LHTAM zone is the same as the income figure used for its parent OCTAM zone. The LHTAM zone's population in the work force figure was developed from the population figure using the relationship between population in the work force and total population, as contained in the parent OCTAM zone. The LHTAM zone's stratification of dwelling units by income level was developed from the total number of dwelling units using the relative proportions contained in the parent OCTAM zone.

Existing Socioeconomic Data

As indicated previously, the LHTAM existing conditions model uses the socioeconomic data directly from the OCTAM II. Even though TAZs within the primary area are disaggregated from OCTAM zones, the summation of LHTAM zonal socioeconomic data by OCTAM zone is equal to the original OCTAM totals. To disaggregate existing OCTAM zonal socioeconomic data into LHTAM zonal data, the existing land use data for the LHTAM zones was converted to socioeconomic data. The socioeconomic data for each of the LHTAM zones comprising a particular OCTAM zone was then normalized to the OCTAM control totals. Table E summarizes the OCTAM II 1990 socio-

Table E - Existing OCTAM Socioeconomic Data for LHTAM Primary Area

TAZ	SDU	MDU	Group Quarters	Popul.	Acres	Retail Emp.	Total Emp.	Low DU	Medium DU	High DU
605	0	491	0	857	77.49	0	338	64	167	260
606	0	601	0	1,047	106.19	0	463	78	204	318
607	0	0	0	0	34.44	0	150	0	0	0
608	0	0	0	0	68.88	0	300	0	0	0
609	376	0	0	655	142.04	0	203	49	128	199
610	361	0	0	630	125.96	323	180	47	123	191
611	0	0	0	0	210.75	0	2,915	0	0	0
612	0	154	0	269	70.25	600	972	70	61	23
613	0	0	0	0	34.00	458	819	0	0	0
614	0	0	0	0	14.10	183	235	0	0	0
615	0	0	0	0	31.02	629	516	0	0	0
616	0	0	0	0	11.28	0	188	0	0	0
617	0	0	0	0	8.46	0	141	0	0	0
618	0	0	0	0	87.42	1,571	1,455	0	0	0
619	0	0	0	0	16.92	0	282	0	0	0
620	0	431	127	834	25.38	0	422	233	147	52
621	0	168	50	326	47.94	236	798	91	57	20
622	339	0	0	653	39.48	0	657	183	115	41
623	251	0	0	663	51.30	0	179	43	100	108
624	54	0	0	145	15.20	0	53	9	21	23
625	293	118	0	870	74.10	0	259	70	164	177
626	0	0	0	0	22.80	272	80	0	0	0
627	0	473	0	394	19.00	0	66	80	189	203
628	0	0	0	0	7.60	86	27	0	0	0
629	0	0	0	42	28.00	175	46	0	0	0
630	1,194	0	0	2,040	372.00	183	618	203	478	513
631	0	545	0	951	107.80	0	61	284	191	71
632	0	67	0	116	13.20	0	8	35	23	9
633	0	153	0	491	75.85	0	35	18	43	92
634	59	257	0	824	129.15	0	58	38	89	190
635	316	54	0	1,060	58.96	0	35	11	37	322
636	135	23	0	452	75.04	67	45	5	16	137
637	0	0	0	0	10.72	62	6	0	0	0
638	175	30	0	588	134.00	0	80	6	21	179
639	360	62	0	1,208	166.16	0	100	13	42	367
640	239	41	0	801	91.12	0	55	8	28	244
641	199	0	0	347	77.50	0	0	34	80	86
642	0	0	0	0	15.00	207	293	0	0	0
643	0	0	0	0	18.75	244	346	0	0	0
644	0	90	0	257	80.00	0	62	15	36	39
645	50	0	0	157	26.20	0	5	1	1	49
646	210	0	0	630	294.75	0	56	2	4	204
647	210	0	0	615	320.95	0	61	2	4	204
648	30	0	0	29	13.10	0	2	0	1	29
649	187	0	0	527	737.10	0	369	4	19	165
650	141	26	0	486	432.90	0	219	3	17	147
651	0	0	0	0	6.25	288	408	0	0	0
Total	5,178	3,786	177	18,965	4,626.50	5,584	14,662	1,698	2,605	4,661

economic data for the primary area by LHTAM zone. Appendix C contains a summary of actual existing land use data. In the traffic modelling, the OCTAM II trip table based on the socioeconomic data in Table E was factored to reflect trips generated by the actual socioeconomic data

Preferred General Plan Socioeconomic Data

The LHTAM secondary area TAZs use the OCTAM II zonal socioeconomic data. The LHTAM primary area zonal socioeconomic data was developed from the preferred General Plan alternative land use information. Table F summarizes the General Plan build out socioeconomic data for the primary area by TAZ, with subtotals by OCTAM TAZ. This table also contains a comparison of primary area socioeconomic data with the OCTAM post-2010 socioeconomic data. Appendix C contains a summary of the preferred General Plan land use data by LHTAM zone.

TRIP TABLE DEVELOPMENT

In the "traditional" traffic modeling approach, trip generation algorithms are applied to the zonal land use or socioeconomic data to determine zonal trip generation. These trips are then distributed based on interactions between pairs of zones. The trip generation and trip distribution procedures, as utilized in LHTAM, are discussed below.

Trip Generation

In the traffic modeling process, trips generated by each TAZ are calculated based on the input land use or socioeconomic data for the respective TAZ. Trip generation rates or algorithms are applied to determine zonal trip generation in terms of productions (Ps) and attractions (As). Productions are trips that are produced by a land use (typically residential uses), and attractions are trips that are produced by one land use and attracted to another land use (typically commercial uses or employment centers). The sum of the productions and attractions results in the total trips generated by each TAZ.

Productions and attractions are further subdivided by trip purpose. Various trip purposes are used, as different types of trips tend to have different vehicle occupancies, different trip lengths, etc., which affect travel patterns. In the LHTAM, four trip purposes are used:

1. **Home-Base Work (HBW)** - trips between home and work.
2. **Home-Base Non-Work (HBNW)** - trips between home and places other than work, such as commercial uses, schools, recreational uses, etc.

Table F - Preferred General Plan LHTAM Primary Area Socioeconomic Data

TAZ	SDU	MDU	Group Quarters	Popul.	Acres	Retail Emp.	Total Emp.	Low DU	Medium DU	High DU
605	502	0	0	1,506	77.49	0	9	65	171	266
606	626	0	0	1,878	106.19	0	675	81	213	332
607	0	0	0	0	34.44	0	1,428	0	0	0
608	0	0	0	0	68.88	0	1,807	0	0	0
609	397	0	0	1,191	142.04	0	26	52	135	210
610	332	0	0	996	125.96	577	581	43	113	176
611	0	0	0	0	210.75	0	7,785	0	0	0
612	0	522	0	1,044	70.25	1,296	1,296	240	204	78
613	0	0	0	0	34.00	367	367	0	0	0
614	0	0	0	0	14.10	0	399	0	0	0
615	0	0	0	0	31.02	0	1,937	0	0	0
616	0	0	0	0	11.28	0	1,479	0	0	0
617	0	0	0	0	8.46	0	0	0	0	0
618	0	0	0	0	87.42	2,693	2,693	0	0	0
619	0	0	0	0	16.92	0	544	0	0	0
620	0	620	0	1,240	25.38	0	3	335	211	74
621	0	248	0	496	47.94	302	1,092	134	84	30
622	75	0	0	225	39.48	0	0	41	26	9
623	300	0	0	900	51.30	0	0	51	120	129
624	65	0	0	195	15.20	0	145	11	26	28
625	400	0	0	1,200	74.10	0	0	68	160	172
626	0	0	0	0	22.80	610	626	0	0	0
627	205	0	0	615	19.00	0	0	35	82	88
628	0	0	0	0	7.60	305	305	0	0	0
629	0	0	0	0	28.00	0	795	0	0	0
630	1,095	0	0	3,285	372.00	244	487	186	438	471
631	366	0	0	1,098	107.80	0	0	190	128	48
632	0	0	0	0	13.20	0	0	0	0	0
633	0	324	0	648	75.85	0	0	10	32	282
634	187	248	0	1,057	129.15	0	0	13	44	378
635	459	0	0	1,377	58.96	0	4	55	129	275
636	158	0	0	474	75.04	244	244	19	44	95
637	0	0	0	0	10.72	224	224	0	0	0
638	205	0	0	615	134.00	0	0	25	57	123
639	421	0	0	1,263	166.16	0	32	51	118	253
640	280	0	0	840	91.12	0	0	34	78	168
641	245	0	0	735	77.50	244	244	42	98	105
642	0	0	0	0	15.00	268	810	0	0	0
643	0	0	0	0	18.75	454	466	0	0	0
644	0	306	0	612	80.00	188	188	37	86	184
645	88	0	0	264	26.20	0	0	1	2	85
646	339	0	0	1,017	294.75	0	0	3	7	329
647	355	0	0	1,065	320.95	0	0	4	7	344
648	54	0	0	162	13.10	0	0	1	1	52
649	710	0	0	2,130	737.10	0	0	14	71	625
650	613	0	0	1,839	432.90	0	0	12	61	539
651	0	0	0	0	6.25	0	945	0	0	0
Total	8,477	2,268	0	29,967	4,626.50	8,016	27,636	1,850	2,945	5,950

3. **Non-Home Base (NHB)** - trips between two uses other than the home, such as work to commercial uses, one commercial center to another, etc.
4. **Cordon Trips** - trips between a TAZ and an area outside the model area (i.e., trips traveling through one of the network's cordon points).

The trip generation algorithms used in the LHTAM are taken directly from the *OCTAM II Model Description and Validation Report*.

Table G summarizes the LHTAM primary area zonal productions and attractions for existing conditions. These are the final balanced Ps and As resulting from application of the trip table expansion and balancing procedures discussed above.

Table H summarizes the primary area zonal productions and attractions resulting from the expansion of the OCTAM trip tables to the LHTAM zonal structure for the primary area. This summary represent trips which are generated per the parent OCTAM post-2010 model. Table I summarizes comparable LHTAM primary area zonal trips for the preferred General Plan alternative land uses.

Trip Distribution

Trip distribution is based on zonal interactions as determined through a "gravity" approach which distributes trips based on typical driver behavior. This behavioral model is based on the concept that travel between zones is directly proportional to the relative attraction of each zone and inversely proportional to the distance and/or travel time between zones. The resulting "product" of the combined trip generation and trip distribution processes is a trip table, which is a matrix summarizing the number of trips which will travel between any given zonal pair (in the case of the LHTAM, this is a 661 by 661 matrix).

In the LHTAM model, as in the parent OCTAM II model, one trip table is developed for each of the four trip purposes. Each of these trip tables represent daily trips. In the parent OCTAM II mode, these trip tables represent person trips. The OCTAM II model employs an additional step which converts person trips to vehicle trips based on mode split and vehicle occupancy rates by trip purpose. The LHTAM model does not use this intermediate step, as the trip tables extracted from the OCTAM II model are vehicle trip tables (i.e., the trip tables were extracted after the mode split process).

LHTAM Trip Table Development

As indicated previously, the OCTAM II vehicle trip tables extracted for the LHTAM study area represents a 604 by 604 matrix, corresponding to the trip interchanges for the 604 OCTAM II TAZs comprising the LHTAM modeled

Table G - Existing LHTAM Primary Area Productions and Attractions

LHTAM	Productions				Attractions				Cordon	Total Trips
	HBW	HBNW	NHB	Total	HBW	HBNW	NHB	Total		
605	944	1,656	471	3,071	0	416	203	619	9	3,699
606	1,175	2,064	587	3,826	528	784	655	1,967	27	5,820
607	0	0	148	148	1,130	235	502	1,867	33	2,048
608	0	0	195	195	1,603	278	612	2,493	42	2,730
609	847	1,583	1,051	3,481	0	505	180	685	11	4,177
610	705	1,338	875	2,918	204	2,605	1,210	4,019	51	6,988
611	0	0	6,224	6,224	6,530	1,116	2,632	10,278	104	16,606
612	294	628	1,329	2,251	1,046	7,618	4,197	12,861	121	15,233
613	0	0	478	478	376	2,918	1,414	4,708	74	5,260
614	0	0	790	790	201	1,625	843	2,669	21	3,480
615	0	0	2,804	2,804	789	5,764	2,838	9,391	79	12,274
616	0	0	0	0	0	0	0	0	0	0
617	0	0	393	393	1,056	145	362	1,563	13	1,969
618	0	0	6,966	6,966	2,041	14,334	7,167	23,542	193	30,701
619	0	0	144	144	379	85	142	606	5	755
620	729	1,307	1,163	3,199	2	407	184	593	5	3,797
621	288	516	461	1,265	1,092	2,352	1,481	4,925	39	6,229
622	102	210	163	475	0	87	33	120	1	596
623	617	1,193	372	2,182	0	354	185	539	5	2,726
624	133	258	80	471	293	67	162	522	11	1,004
625	819	1,559	494	2,872	0	459	193	652	7	3,531
626	0	0	656	656	418	2,971	1,495	4,884	54	5,594
627	407	687	245	1,339	0	165	87	252	3	1,594
628	0	0	211	211	101	992	419	1,512	16	1,739
629	0	0	572	572	164	2,236	1,145	3,545	40	4,157
630	2,412	4,583	1,571	8,566	443	3,705	1,761	5,909	62	14,537
631	429	821	270	1,520	0	477	287	764	29	2,313
632	0	0	0	0	0	0	0	0	0	0
633	714	1,372	231	2,317	0	310	149	459	14	2,790
634	977	1,978	315	3,270	0	494	237	731	19	4,020
635	875	1,453	422	2,750	0	464	195	659	17	3,426
636	369	700	178	1,247	145	1,710	801	2,656	73	3,976
637	0	0	170	170	195	1,358	647	2,200	56	2,426
638	480	901	229	1,610	0	362	153	515	12	2,137
639	986	1,851	471	3,308	102	751	325	1,178	33	4,519
640	654	1,240	315	2,209	0	501	209	710	17	2,936
641	536	1,025	604	2,165	0	280	117	397	2	2,564
642	0	0	1,220	1,220	472	2,729	1,401	4,602	36	5,858
643	0	0	647	647	217	1,498	745	2,460	18	3,125
644	655	1,257	291	2,203	52	728	341	1,121	49	3,373
645	232	429	77	738	0	134	60	194	15	947
646	945	1,744	313	3,002	0	561	299	860	60	3,922
647	940	1,734	311	2,985	0	552	261	813	60	3,858
648	142	265	47	454	0	66	40	106	13	573
649	1,832	3,496	1,547	6,875	0	1,539	658	2,197	50	9,122
650	1,574	2,959	1,329	5,862	0	1,300	503	1,803	39	7,704
651	0	0	582	582	563	957	650	2,170	17	2,769
City	17,847	33,538	26,654	78,039	8,725	52,519	26,575	87,819	1,183	167,041
Annex.	3,965	7,269	11,358	22,592	11,417	16,475	11,605	39,497	472	62,561
Total	21,812	40,807	38,012	100,631	20,142	68,994	38,180	127,316	1,655	229,602

Table H - OCTAM II Post-2010 Daily Trip Ends for LHTAM Primary Area

LHTAM	Productions				Attractions				Cordon	Total Trips
	HBW	HBNW	NHB	Total	HBW	HBNW	NHB	Total		
605	1,188	1,904	1,045	4,137	708	317	463	1,488	21	5,646
606	1,453	2,327	1,278	5,058	1,014	2,869	1,933	5,816	71	10,945
607	0	0	87	87	323	66	135	524	7	618
608	0	0	173	173	617	93	247	957	15	1,145
609	921	1,641	1,099	3,661	392	211	200	803	17	4,481
610	885	1,577	1,055	3,517	264	4,155	2,072	6,491	112	10,120
611	0	0	3,774	3,774	4,342	715	1,857	6,914	95	10,783
612	247	392	773	1,412	1,509	4,368	3,002	8,879	115	10,406
613	0	0	1,700	1,700	1,371	7,253	3,946	12,570	266	14,536
614	0	0	789	789	227	1,536	851	2,614	38	3,441
615	0	0	2,579	2,579	591	5,322	2,714	8,627	119	11,325
616	0	0	83	83	234	50	85	369	7	459
617	0	0	62	62	150	21	63	234	4	300
618	0	0	6,520	6,520	1,758	13,322	6,896	21,976	304	28,800
619	0	0	123	123	313	52	120	485	9	617
620	657	1,074	934	2,665	460	302	366	1,128	17	3,810
621	255	418	363	1,036	950	2,168	1,344	4,462	62	5,560
622	529	999	757	2,285	751	212	419	1,382	21	3,688
623	1,904	3,550	663	6,117	159	560	382	1,101	18	7,236
624	408	761	142	1,311	53	121	68	242	4	1,557
625	2,484	4,570	865	7,919	347	708	397	1,452	23	9,394
626	0	0	315	315	108	2,376	1,158	3,642	57	4,014
627	1,052	1,713	366	3,131	64	318	215	597	10	3,738
628	0	0	100	100	16	766	323	1,105	17	1,222
629	92	149	38	279	27	1,583	769	2,379	38	2,696
630	5,758	10,452	2,404	18,614	722	3,259	1,772	5,753	94	24,461
631	893	1,466	390	2,749	58	633	414	1,105	79	3,933
632	109	179	48	336	68	77	61	206	9	551
633	867	1,442	197	2,506	47	464	228	739	20	3,265
634	1,863	3,193	423	5,479	81	753	394	1,228	34	6,741
635	1,098	1,950	490	3,538	62	498	282	842	30	4,410
636	468	832	209	1,509	60	1,351	633	2,044	79	3,632
637	0	0	156	156	5	1,046	500	1,551	59	1,766
638	609	1,081	272	1,962	147	291	206	644	23	2,629
639	1,252	2,223	559	4,034	189	565	318	1,072	41	5,147
640	830	1,474	371	2,675	96	382	208	686	28	3,389
641	5,851	10,604	3,097	19,552	0	1,606	754	2,360	26	21,938
642	0	0	595	595	851	2,208	1,383	4,442	55	5,092
643	0	0	727	727	1,117	2,759	1,760	5,636	67	6,430
644	202	336	556	1,094	206	1,072	576	1,854	33	2,981
645	88	158	55	301	0	34	15	49	1	351
646	990	1,780	615	3,385	0	434	195	629	22	4,036
647	1,078	1,938	670	3,686	0	479	213	692	25	4,403
648	44	79	27	150	0	21	6	27	1	178
649	1,648	3,082	1,928	6,658	1,880	2,929	2,347	7,156	108	13,922
650	1,499	2,746	1,756	6,001	1,129	1,982	1,486	4,597	70	10,668
651	0	0	238	238	403	896	576	1,875	21	2,134
City	32,528	58,249	30,482	121,259	13,329	53,156	30,497	96,982	1,673	219,914
Annex.	4,694	7,841	10,984	23,519	10,540	20,047	13,855	44,442	719	68,680
Total	37,222	66,090	41,466	144,778	23,869	73,203	44,352	141,424	2,392	288,594

Table I - Preferred General Plan LHTAM Primary Area Daily Trip Ends

LHTAM	Productions				Attractions				Cordon	Total Trips
	HBW	HBNW	NHB	Total	HBW	HBNW	NHB	Total		
605	1,045	1,923	920	3,888	7	472	258	737	10	4,635
606	1,308	2,397	1,150	4,855	722	678	702	2,102	27	6,984
607	0	0	409	409	1,496	308	629	2,433	32	2,874
608	0	0	514	514	1,816	272	735	2,823	45	3,382
609	921	1,641	1,099	3,661	28	368	165	561	13	4,235
610	770	1,372	918	3,060	527	5,251	2,752	8,530	150	11,740
611	0	0	6,982	6,982	7,927	1,311	3,432	12,670	175	19,827
612	785	1,247	2,458	4,490	1,393	9,431	5,765	16,589	216	21,295
613	0	0	782	782	442	3,469	1,822	5,733	118	6,633
614	0	0	182	182	396	92	208	696	14	892
615	0	0	890	890	2,325	419	926	3,670	55	4,615
616	0	0	687	687	1,927	407	704	3,038	57	3,782
617	0	0	0	0	0	0	0	0	0	0
618	0	0	11,847	11,847	3,342	23,762	12,547	39,651	556	52,054
619	0	0	248	248	632	103	246	981	18	1,247
620	1,028	1,680	1,460	4,168	9	504	244	757	11	4,936
621	407	668	581	1,656	1,271	2,894	1,796	5,961	84	7,701
622	111	210	159	480	0	69	41	110	3	593
623	647	1,207	225	2,079	0	337	192	529	7	2,615
624	139	259	48	446	138	71	85	294	6	746
625	869	1,600	303	2,772	0	429	170	599	9	3,380
626	0	0	702	702	791	4,811	2,598	8,200	129	9,031
627	442	822	154	1,418	0	223	122	345	5	1,768
628	0	0	352	352	171	2,466	1,131	3,768	61	4,181
629	0	0	113	113	429	167	354	950	25	1,088
630	2,361	4,390	986	7,737	520	3,094	1,646	5,260	85	13,082
631	518	968	226	1,712	0	625	361	986	67	2,765
632	0	0	0	0	0	0	0	0	0	0
633	746	1,240	171	2,157	0	243	104	347	9	2,513
634	1,006	1,788	233	3,027	0	368	185	553	16	3,596
635	1,065	1,970	470	3,505	5	569	298	872	30	4,407
636	370	682	163	1,215	217	2,389	1,194	3,800	151	5,166
637	0	0	335	335	118	2,001	1,088	3,207	129	3,671
638	475	876	212	1,563	0	265	127	392	14	1,969
639	977	1,801	436	3,214	43	524	249	816	30	4,060
640	656	1,194	289	2,139	0	347	159	506	20	2,665
641	527	954	279	1,760	0	2,225	1,149	3,374	41	5,175
642	0	0	571	571	789	2,083	1,348	4,220	52	4,843
643	0	0	800	800	575	3,613	1,936	6,124	71	6,995
644	652	1,085	1,796	3,533	178	1,873	938	2,989	52	6,574
645	230	412	144	786	0	95	44	139	3	928
646	881	1,584	547	3,012	0	429	196	625	22	3,659
647	927	1,667	576	3,170	0	453	203	656	24	3,850
648	141	253	86	480	0	71	20	91	4	575
649	1,747	3,267	2,044	7,058	0	776	398	1,174	16	8,248
650	1,514	2,828	1,756	6,098	0	710	289	999	15	7,112
651	0	0	174	174	1,088	210	463	1,761	20	1,955
City	18,436	33,405	30,245	82,086	14,964	59,717	33,759	108,440	1,911	192,437
Annex.	4,829	8,580	15,232	28,641	14,358	21,560	16,260	52,178	786	81,605
Total	23,265	41,985	45,477	110,727	29,322	81,277	50,019	160,618	2,697	274,042

area. The key portion of LHTAM trip table development is expansion of the 15 OCTAM II TAZs comprising the primary area into 47 LHTAM TAZs.

EMA Transportation Planning staff was consulted to determine the appropriate method for expanding the LHTAM study area from 604 OCTAM zones to 661 LHTAM zones. It was determined that the most desirable method would be to utilize the OCTAM II trip tables as the basis for trip distribution patterns, and to factor these trip tables as necessary to reflect changes in trip generation associated with modifications to the land use base being examined as part of the General Plan process. The determination to use this methodology was based on several considerations:

1. The proposed General Plan land use alternatives do not contain any significant changes in land uses for the Laguna Hills area. Since new land uses, such as significant attractors (i.e., regional shopping centers or large-scale employment centers) are not being added, overall travel patterns to and from the City of Laguna Hills will not be significantly different from the travel patterns currently contained in the OCTAM II model. The factoring process would retain the basic OCTAM II trip distribution patterns, while permitting minor modifications due to changes in trip generation.
2. Since use of the factoring procedure would retain the OCTAM II trip distribution patterns, the LHTAM model would be consistent with the parent OCTAM model.
3. Retaining the OCTAM II trip distribution patterns avoids the need to develop new trip distribution patterns and to calibrate these patterns and resulting volumes to OCTAM II.

The trip table expansion process entails two distinct steps: expansion and factoring.

Expansion Methodology

The first step in the expansion of the OCTAM II trip tables to create LHTAM trip tables is to split the TAZs in the primary area. As discussed previously, the 15 OCTAM II TAZ comprising the primary area need to be split into 57 LHTAM TAZs (47 primary area zones and 10 secondary area zones). The splitting process employs the MATRIX EXPAND module of the TRANPLAN software. This module requires the input of expansion factors expressed in terms of the percentage of trip interchanges of an old zone to be allocated to each specified new zone according to whether the trip has its production or attraction in that new zone.

For purposes of the LHTAM, the expansion factors were developed as part of the land use-socioeconomic conversion and trip generation processes, based on existing land use relationships. Specific steps are as follows:

1. Existing land uses for each of the LHTAM TAZs in the primary area is converted to socioeconomic data.
2. The zonal socioeconomic data is used to generate trips by trip purpose, using standard OCTAM II trip generation algorithms.
3. The LHTAM zonal trips are sub-totaled by OCTAM zone.
4. Control total trips are developed by applying standard OCTAM II trip generation algorithms to OCTAM zonal socioeconomic data.
5. The LHTAM trips (sub-totaled by OCTAM zone) are compared with the OCTAM zonal trip control totals.
6. The LHTAM zonal trips are normalized to the OCTAM control totals.
7. The LHTAM zonal trips by purpose are divided by the OCTAM control trips by purpose to develop expansion factors.

The resulting factors are input into the MATRIX EXPAND module, along with the 604 by 604 zone OCTAM II trip table matrices. The outputs are the 661 by 661 LHTAM trip table matrices.

Fratar Methodology

The second step in expanding trip tables is the process used to factor the expanded trip table to reflect changes in trip generation attributable to changes in land use/socioeconomic data. The factoring process employs the FRATAR MODEL module of the TRANPLAN software. This module updates a trip table using an iterative Fratar expansion process, using production growth factors and attraction growth factors. The factors are then converted to final production-attraction (P-A) trip totals and the iterative process is performed until the productions and attractions are balanced.

For purposes of the LHTAM, the growth factors were developed as part of the trip generation process. Specific steps are as follows:

1. The OCTAM II socioeconomic data disaggregated to LHTAM zones is used to generate trips by trip purpose, using standard OCTAM II trip generation algorithms.
2. The socioeconomic data for a modified land use scenario is used to generate trips by purpose, using standard OCTAM II trip generation algorithms.
3. The LHTAM zonal trips by purpose are divided by the OCTAM control trips by purpose to develop growth factors.

The resulting factors are input into the FRATAR MODEL module, along with expanded trip table matrices (developed using the expansion methodology). The outputs are factored and balanced LHTAM trip table matrices for each trip purpose.

Trip Table Conversion

Prior to running trip assignments, the daily P-A trip tables must be converted to trip tables for each of the three time periods (AM peak period, PM peak period, and off-peak period), as well as from the P-A format to origin-destination (O-D) format. This conversion is achieved through application of the conversion factors summarized in Table J.

Table J - Trip Table Conversion Factors

Period	Home Based Work			Home Based Non-Work			Non-Home Based		
	P-A	A-P	Total	P-A	A-P	Total	P-A	A-P	Total
AM Peak	0.2909	0.0039	0.2900	0.0677	0.0065	0.0700	0.0295	0.0295	0.0600
PM Peak	0.0272	0.3080	0.3400	0.0787	0.1569	0.2400	0.1277	0.1277	0.2600
Off Peak	0.2052	0.1648	0.3700	0.3359	0.3543	0.6900	0.3428	0.3428	0.6900
Total	0.5233	0.4767	1.0000	0.4823	0.5177	1.0000	0.5000	0.5000	1.0000

Source: *OCTAM II Model Description and Validation Report*, Orange County EMA Transportation Planning, November, 1991.

TRIP ASSIGNMENT

The trip assignment process combines the trip tables and the highway networks to simulate travel patterns along the roadways depicted in the network. In the LHTAM, as in the OCTAM II parent model, this assignment process is performed using an iterative process. During the first iteration, travel times are based on free-flow speeds. The model determines the time to travel along possible paths from one zone to another, and assigns a portion of the trips to the shortest path (based on travel time). After this traffic is assigned, the model calculates new speeds resulting with the addition of traffic (i.e., congested roadways have reduced speeds and increased travel times). During the second iteration, the model determines the shortest path between zonal pairs based on the new congested speeds, and assigns another portion of the traffic. The shortest paths in this second iteration may be different from the paths used in the first iteration. This difference in travel paths simulates the diversion of traffic due to congestion. This iterative process of calculating travel times, assigning a portion of traffic, and recalculating travel times is performed for a total of four iterations.

During the first iteration, 50 percent of trips in the modeled area assigned. The second iteration assigns 20 percent of the trips. Ten percent of the trips are assigned during both the third and the fourth iterations.

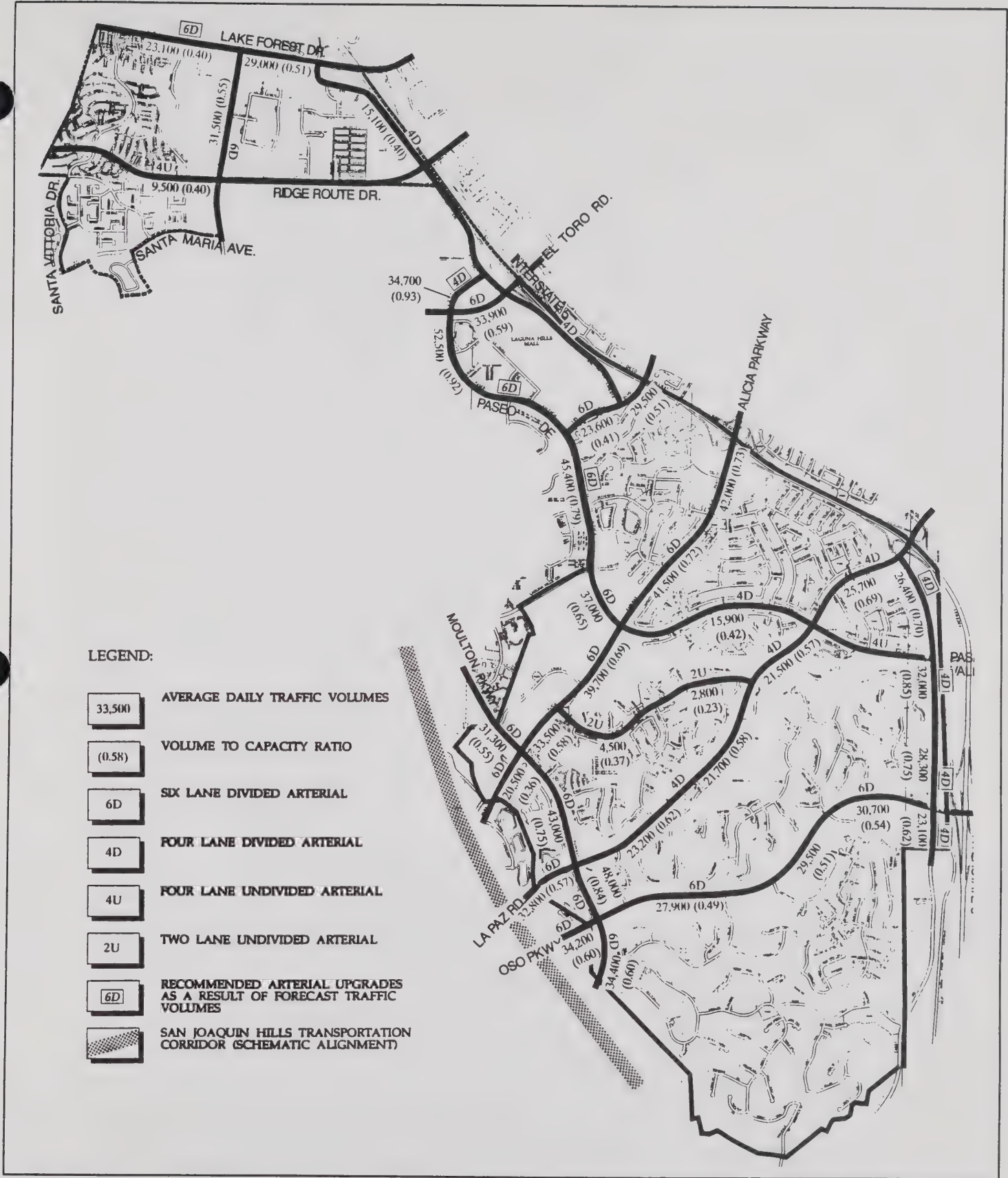
The assignment procedure is performed for each of the three time periods. Daily traffic volumes are then calculated based on the sum of the volumes for each of the time periods.

The resulting preferred General Plan post-2010 daily traffic forecast for arterials in the primary study area is illustrated in Figure 3. These forecast daily arterial segment volumes are used to adequately size the Master Plan circulation system. Additionally, the daily traffic forecasts are used to develop peak hour intersection turn movements, used to determine intersection improvements to achieve the standard level of service D during the a.m. and p.m. peak hours. Table K illustrates the existing and post-2010 General Plan build out ICU values and levels of service at the study area intersections. The ICU worksheets are provided for information purposes as an attachment to this appendix. The existing daily traffic volumes, based on the City of Laguna Hills 1992 traffic flow map, are presented in Figure 4 for comparative purposes.

Table K - General Plan Intersection Level of Service Analysis

Intersection Location	Existing Condition				Preferred General Plan			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Avenida de la Carlota/El Toro Road	0.56	A	0.83	D	0.58	A	0.74	C
2. Paseo de Valencia/El Toro Road	0.54	A	0.61	B	0.89	D	0.78	C
3. Avenida de la Carlota/Paseo de Valencia	0.76	C	0.48	A	0.89	D	0.60	A
4. Avenida de la Carlota/Los Alisos Boulevard	0.52	A	0.75	C	0.62	B	0.74	C
5. Paseo de Valencia/Los Alisos Boulevard	0.93	E	0.73	C	0.87	D	0.85	D
6. Paseo de Valencia/Alicia Parkway	0.63	B	0.92	E	0.77	C	0.79	C
7. Paseo de Valencia/Laguna Hills Drive	0.70	C	0.80	D	0.68	B	0.88	D
8. Alicia Parkway/I-5 southbound ramps	0.43	A	0.66	B	0.41	A	0.60	A
9. Moulton Parkway/Alicia Parkway	0.86	D	0.76	C	0.79	C	0.78	C
10. I-5 southbound ramps-Cabot Road/La Paz Road	0.78	C	0.85	D	0.83	D	0.86	D
11. La Paz Road/Paseo de Valencia	0.58	A	0.52	A	0.81	D	0.68	B
12. Moulton Parkway/La Paz Road	0.74	C	0.71	C	1.19	F	1.10	F
13. Cabot Road/Paseo de Valencia	0.48	A	0.43	A	0.56	A	0.57	A
14. Cabot Road/Oso Parkway	0.59	A	0.57	A	0.82	D	0.82	D
15. Moulton Parkway/Oso Parkway	0.66	B	0.61	B	1.17	F	0.83	D
16. Moulton Parkway/Lake Forest Drive	1.21	F	1.06	F	0.79	C	0.55	A
17. Moulton Parkway/Ridge Route Drive	0.75	C	0.71	C	0.51	A	0.59	A
18. Avenida de la Carlota/Ridge Route Drive	0.40	A	0.59	A	0.85	D	0.67	B

Note: ICU is Intersection Capacity Utilization
LOS is Level of Service



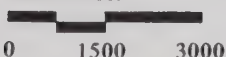
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Figure 3



LSA

Scale in Feet



Laguna Hills General Plan
Preferred General Plan Alternative
Daily Traffic Forecast

APPENDIX A

LHTAM ZONAL CORRESPONDENCE TABLES

LHTAM ZONAL CORRESPONDENCE TABLES

Table A-1 summarizes the correspondence between LHTAM and OCTAM II zones for the existing model. Table A-2 summarizes the correspondence between LHTAM and OCTAM II zones for the future model.

Due to minor differences in the 1990 and post-2010 subareas extracted from the OCTAM II model, there are some differences in zone numbering used for the LHTAM existing and future models. The existing LHTAM model has an additional zone (TAZ 96) which is not contained in the future model. Therefore, there is a one number difference in the number for zones 96 through 565 (existing zone 97 is the same as future zone 96, existing zone 98 is the same as future zone 97, and so on). In addition, the future model has more cordon points than the existing model.

The primary area zonal numbering in both the existing and the future models are the same (TAZs 605 through 651).

LHTAM ZONAL CORRESPONDENCE TABLES

Table A-1 summarizes the correspondence between LHTAM and OCTAM II zones for the existing model. Table A-2 summarizes the correspondence between LHTAM and OCTAM II zones for the future model.

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The primary area zonal numbering in both the existing and the future models are the same (TAZs 605 through 651).

Table A-1 - LHTAM/OCTAM II Zonal Correspondence - Existing

LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II
1	28	51	566	101	619	151	749	201	799
2	399	52	567	102	620	152	750	202	800
3	400	53	568	103	621	153	751	203	801
4	401	54	569	104	622	154	752	204	802
5	402	55	570	105	623	155	753	205	803
6	403	56	571	106	624	156	754	206	804
7	404	57	572	107	625	157	755	207	805
8	405	58	573	108	626	158	756	208	806
9	406	59	574	109	627	159	757	209	807
10	407	60	575	110	628	160	758	210	808
11	408	61	576	111	629	161	759	211	809
12	409	62	577	112	630	162	760	212	810
13	410	63	578	113	631	163	761	213	811
14	412	64	579	114	632	164	762	214	812
15	413	65	580	115	633	165	763	215	813
16	414	66	581	116	634	166	764	216	814
17	415	67	582	117	635	167	765	217	815
18	416	68	583	118	636	168	766	218	816
19	417	69	584	119	637	169	767	219	817
20	418	70	585	120	638	170	768	220	818
21	419	71	586	121	639	171	769	221	819
22	420	72	587	122	640	172	770	222	820
23	421	73	588	123	641	173	771	223	821
24	422	74	589	124	642	174	772	224	822
25	423	75	590	125	643	175	773	225	823
26	424	76	591	126	644	176	774	226	824
27	425	77	592	127	645	177	775	227	825
28	426	78	593	128	646	178	776	228	826
29	427	79	594	129	647	179	777	229	827
30	428	80	595	130	648	180	778	230	828
31	429	81	596	131	649	181	779	231	829
32	430	82	597	132	650	182	780	232	830
33	431	83	598	133	651	183	781	233	831
34	432	84	599	134	652	184	782	234	832
35	433	85	600	135	653	185	783	235	833
36	434	86	601	136	654	186	784	236	834
37	548	87	602	137	735	187	785	237	835
38	549	88	603	138	736	188	786	238	836
39	554	89	604	139	737	189	787	239	837
40	555	90	605	140	738	190	788	240	838
41	556	91	606	141	739	191	789	241	839
42	557	92	607	142	740	192	790	242	840
43	558	93	608	143	741	193	791	243	841
44	559	94	609	144	742	194	792	244	842
45	560	95	610	145	743	195	793	245	843
46	561	96	612	146	744	196	794	246	844
47	562	97	615	147	745	197	795	247	845
48	563	98	616	148	746	198	796	248	846
49	564	99	617	149	747	199	797	249	847
50	565	100	618	150	748	200	798	250	848

Table A-1 - LHTAM/OCTAM II Zonal Correspondence - Existing

LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II
251	849	301	899	351	949	401	999	451	1049
252	850	302	900	352	950	402	1000	452	1050
253	851	303	901	353	951	403	1001	453	1051
254	852	304	902	354	952	404	1002	454	1052
255	853	305	903	355	953	405	1003	455	1053
256	854	306	904	356	954	406	1004	456	1054
257	855	307	905	357	955	407	1005	457	1055
258	856	308	906	358	956	408	1006	458	1056
259	857	309	907	359	957	409	1007	459	1057
260	858	310	908	360	958	410	1008	460	1058
261	859	311	909	361	959	411	1009	461	1059
262	860	312	910	362	960	412	1010	462	1060
263	861	313	911	363	961	413	1011	463	1061
264	862	314	912	364	962	414	1012	464	1062
265	863	315	913	365	963	415	1013	465	1063
266	864	316	914	366	964	416	1014	466	1064
267	865	317	915	367	965	417	1015	467	1065
268	866	318	916	368	966	418	1016	468	1066
269	867	319	917	369	967	419	1017	469	1067
270	868	320	918	370	968	420	1018	470	1068
271	869	321	919	371	969	421	1019	471	1069
272	870	322	920	372	970	422	1020	472	1070
273	871	323	921	373	971	423	1021	473	1071
274	872	324	922	374	972	424	1022	474	1072
275	873	325	923	375	973	425	1023	475	1073
276	874	326	924	376	974	426	1024	476	1074
277	875	327	925	377	975	427	1025	477	1075
278	876	328	926	378	976	428	1026	478	1076
279	877	329	927	379	977	429	1027	479	1077
280	878	330	928	380	978	430	1028	480	1078
281	879	331	929	381	979	431	1029	481	1079
282	880	332	930	382	980	432	1030	482	1080
283	881	333	931	383	981	433	1031	483	1081
284	882	334	932	384	982	434	1032	484	1082
285	883	335	933	385	983	435	1033	485	1083
286	884	336	934	386	984	436	1034	486	Dummy
287	885	337	935	387	985	437	1035	487	Dummy
288	886	338	936	388	986	438	1036	488	Dummy
289	887	339	937	389	987	439	1037	489	Dummy
290	888	340	938	390	988	440	1038	490	1088
291	889	341	939	391	989	441	1039	491	1089
292	890	342	940	392	990	442	1040	492	1090
293	891	343	941	393	991	443	1041	493	1091
294	892	344	942	394	992	444	1042	494	Dummy
295	893	345	943	395	993	445	1043	495	1093
296	894	346	944	396	994	446	1044	496	Dummy
297	895	347	945	397	995	447	1045	497	Dummy
298	896	348	946	398	996	448	1046	498	Dummy
299	897	349	947	399	997	449	1047	499	Dummy
300	898	350	948	400	998	450	1048	500	1098

Table A-1 - LHTAM/OCTAM II Zonal Correspondence - Existing

LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II
501	1099	551	1149	601	Dummy	651	1097 - Part		
502	1100	552	1150	602	Dummy	652	1114 - Part		
503	1101	553	1151	603	Dummy	653	1097 - Part		
504	1102	554	1152	604	Dummy	654	1111 - Part		
505	1103	555	1153	605	1084 - Part	655	1119 - Part		
506	1104	556	1154	606	1084 - Part	656	1117 - Part		
507	1105	557	1155	607	1084 - Part	657	1087 - Part		
508	Dummy	558	1156	608	1084 - Part	658	1094 - Part		
509	1107	559	1157	609	1085 - Part	659	1106 - Part		
510	Dummy	560	1158	610	1085 - Part	660	1106 - Part		
511	1109	561	1159	611	1086 - Part	661	1108 - Part		
512	Dummy	562	1160	612	1086 - Part				
513	Dummy	563	1161	613	1087 - Part				
514	1112	564	1162	614	1092 - Part				
515	1113	565	1163	615	1092 - Part				
516	1114 - Part	566	4742	616	1092 - Part				
517	1115	567	4771	617	1092 - Part				
518	1116	568	6360	618	1092 - Part				
519	1117	569	3714	619	1092 - Part				
520	1118	570	3715	620	1092 - Part				
521	Dummy	571	7335	621	1092 - Part				
522	1120	572	5890	622	1092 - Part				
523	1121	573	5889	623	1095 - Part				
524	1122	574	5892	624	1095 - Part				
525	1123	575	4962	625	1095 - Part				
526	1124	576	4987	626	1095 - Part				
527	1125	577	5027	627	1095 - Part				
528	1126	578	5065	628	1095 - Part				
529	1127	579	5087	629	1096 - Part				
530	1128	580	5125	630	1096 - Part				
531	1129	581	4023	631	1094 - Part				
532	1130	582	4022	632	1094 - Part				
533	1131	583	3582	633	1106 - Part				
534	1132	584	3583	634	1106 - Part				
535	1133	585	5197	635	1110 - Part				
536	1134	586	6133	636	1110 - Part				
537	1135	587	3809	637	1110 - Part				
538	1136	588	3808	638	1110 - Part				
539	1137	589	5975	639	1110 - Part				
540	1138	590	7009	640	1110 - Part				
541	1139	591	5306	641	1097 - Part				
542	1140	592	5330	642	1097 - Part				
543	1141	593	5331	643	1097 - Part				
544	1142	594	4138	644	1108 - Part				
545	1143	595	4137	645	1111 - Part				
546	1144	596	5352	646	1111 - Part				
547	1145	597	5353	647	1111 - Part				
548	1146	598	5355	648	1111 - Part				
549	1147	599	1656	649	1119 - Part				
550	1148	600	4491	650	1119 - Part				

NOTE: LHTAM zones 566 - 600 are cordon points.

Table A-2 - LHTAM/OCTAM II Zonal Correspondence - Future

LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II
1	28	51	566	101	620	151	750	201	800
2	399	52	567	102	621	152	751	202	801
3	400	53	568	103	622	153	752	203	802
4	401	54	569	104	623	154	753	204	803
5	402	55	570	105	624	155	754	205	804
6	403	56	571	106	625	156	755	206	805
7	404	57	572	107	626	157	756	207	806
8	405	58	573	108	627	158	757	208	807
9	406	59	574	109	628	159	758	209	808
10	407	60	575	110	629	160	759	210	809
11	408	61	576	111	630	161	760	211	810
12	409	62	577	112	631	162	761	212	811
13	410	63	578	113	632	163	762	213	812
14	412	64	579	114	633	164	763	214	813
15	413	65	580	115	634	165	764	215	814
16	414	66	581	116	635	166	765	216	815
17	415	67	582	117	636	167	766	217	816
18	416	68	583	118	637	168	767	218	817
19	417	69	584	119	638	169	768	219	818
20	418	70	585	120	639	170	769	220	819
21	419	71	586	121	640	171	770	221	820
22	420	72	587	122	641	172	771	222	821
23	421	73	588	123	642	173	772	223	822
24	422	74	589	124	643	174	773	224	823
25	423	75	590	125	644	175	774	225	824
26	424	76	591	126	645	176	775	226	825
27	425	77	592	127	646	177	776	227	826
28	426	78	593	128	647	178	777	228	827
29	427	79	594	129	648	179	778	229	828
30	428	80	595	130	649	180	779	230	829
31	429	81	596	131	650	181	780	231	830
32	430	82	597	132	651	182	781	232	831
33	431	83	598	133	652	183	782	233	832
34	432	84	599	134	653	184	783	234	833
35	433	85	600	135	654	185	784	235	834
36	434	86	601	136	735	186	785	236	835
37	548	87	602	137	736	187	786	237	836
38	549	88	603	138	737	188	787	238	837
39	554	89	604	139	738	189	788	239	838
40	555	90	605	140	739	190	789	240	839
41	556	91	606	141	740	191	790	241	840
42	557	92	607	142	741	192	791	242	841
43	558	93	608	143	742	193	792	243	842
44	559	94	609	144	743	194	793	244	843
45	560	95	610	145	744	195	794	245	844
46	561	96	615	146	745	196	795	246	845
47	562	97	616	147	746	197	796	247	846
48	563	98	617	148	747	198	797	248	847
49	564	99	618	149	748	199	798	249	848
50	565	100	619	150	749	200	799	250	849

Table A-2 - LHTAM/OCTAM II Zonal Correspondence - Future

LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II
251	850	301	900	351	950	401	1000	451	1050
252	851	302	901	352	951	402	1001	452	1051
253	852	303	902	353	952	403	1002	453	1052
254	853	304	903	354	953	404	1003	454	1053
255	854	305	904	355	954	405	1004	455	1054
256	855	306	905	356	955	406	1005	456	1055
257	856	307	906	357	956	407	1006	457	1056
258	857	308	907	358	957	408	1007	458	1057
259	858	309	908	359	958	409	1008	459	1058
260	859	310	909	360	959	410	1009	460	1059
261	860	311	910	361	960	411	1010	461	1060
262	861	312	911	362	961	412	1011	462	1061
263	862	313	912	363	962	413	1012	463	1062
264	863	314	913	364	963	414	1013	464	1063
265	864	315	914	365	964	415	1014	465	1064
266	865	316	915	366	965	416	1015	466	1065
267	866	317	916	367	966	417	1016	467	1066
268	867	318	917	368	967	418	1017	468	1067
269	868	319	918	369	968	419	1018	469	1068
270	869	320	919	370	969	420	1019	470	1069
271	870	321	920	371	970	421	1020	471	1070
272	871	322	921	372	971	422	1021	472	1071
273	872	323	922	373	972	423	1022	473	1072
274	873	324	923	374	973	424	1023	474	1073
275	874	325	924	375	974	425	1024	475	1074
276	875	326	925	376	975	426	1025	476	1075
277	876	327	926	377	976	427	1026	477	1076
278	877	328	927	378	977	428	1027	478	1077
279	878	329	928	379	978	429	1028	479	1078
280	879	330	929	380	979	430	1029	480	1079
281	880	331	930	381	980	431	1030	481	1080
282	881	332	931	382	981	432	1031	482	1081
283	882	333	932	383	982	433	1032	483	1082
284	883	334	933	384	983	434	1033	484	1083
285	884	335	934	385	984	435	1034	485	Dummy
286	885	336	935	386	985	436	1035	486	Dummy
287	886	337	936	387	986	437	1036	487	Dummy
288	887	338	937	388	987	438	1037	488	Dummy
289	888	339	938	389	988	439	1038	489	1088
290	889	340	939	390	989	440	1039	490	1089
291	890	341	940	391	990	441	1040	491	1090
292	891	342	941	392	991	442	1041	492	1091
293	892	343	942	393	992	443	1042	493	Dummy
294	893	344	943	394	993	444	1043	494	1093
295	894	345	944	395	994	445	1044	495	Dummy
296	895	346	945	396	995	446	1045	496	Dummy
297	896	347	946	397	996	447	1046	497	Dummy
298	897	348	947	398	997	448	1047	498	Dummy
299	898	349	948	399	998	449	1048	499	1098
300	899	350	949	400	999	450	1049	500	1099

Table A-2 - LHTAM/OCTAM II Zonal Correspondence - Future

LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II	LHTAM	OCTAM II
501	1100	551	1150	601	5355	651	1097 - Part		
502	1101	552	1151	602	5357	652	1114 - Part		
503	1102	553	1152	603	1656	653	1097 - Part		
504	1103	554	1153	604	4491	654	1111 - Part		
505	1104	555	1154	605	1084 - Part	655	1119 - Part		
506	1105	556	1155	606	1084 - Part	656	1117 - Part		
507	Dummy	557	1156	607	1084 - Part	657	1087 - Part		
508	1107	558	1157	608	1084 - Part	658	1094 - Part		
509	Dummy	559	1158	609	1085 - Part	659	1106 - Part		
510	1109	560	1159	610	1085 - Part	660	1106 - Part		
511	Dummy	561	1160	611	1086 - Part	661	1108 - Part		
512	Dummy	562	1161	612	1086 - Part				
513	1112	563	1162	613	1087 - Part				
514	1113	564	1163	614	1092 - Part				
515	1114 - Part	565	4742	615	1092 - Part				
516	1115	566	4759	616	1092 - Part				
517	1116	567	4770	617	1092 - Part				
518	1117	568	6804	618	1092 - Part				
519	1118	569	6360	619	1092 - Part				
520	Dummy	570	5872	620	1092 - Part				
521	1120	571	3714	621	1092 - Part				
522	1121	572	3715	622	1092 - Part				
523	1122	573	4881	623	1095 - Part				
524	1123	574	5890	624	1095 - Part				
525	1124	575	5889	625	1095 - Part				
526	1125	576	5892	626	1095 - Part				
527	1126	577	4962	627	1095 - Part				
528	1127	578	4937	628	1095 - Part				
529	1128	579	5027	629	1096 - Part				
530	1129	580	6006	630	1096 - Part				
531	1130	581	5087	631	1094 - Part				
532	1131	582	5125	632	1094 - Part				
533	1132	583	4023	633	1106 - Part				
534	1133	584	4022	634	1106 - Part				
535	1134	585	3582	635	1110 - Part				
536	1135	586	3583	636	1110 - Part				
537	1136	587	5197	637	1110 - Part				
538	1137	588	7269	638	1110 - Part				
539	1138	589	3809	639	1110 - Part				
540	1139	590	3808	640	1110 - Part				
541	1140	591	5975	641	1097 - Part				
542	1141	592	3816	642	1097 - Part				
543	1142	593	5306	643	1097 - Part				
544	1143	594	5330	644	1108 - Part				
545	1144	595	5331	645	1111 - Part				
546	1145	596	4138	646	1111 - Part				
547	1146	597	4137	647	1111 - Part				
548	1147	598	5352	648	1111 - Part				
549	1148	599	5353	649	1119 - Part				
550	1149	600	5354	650	1119 - Part				

NOTE: LHTAM zones 565 - 604 are cordon points.

APPENDIX B NETWORK PLOTS



11/16/93(TPN202)

Figure B-1



LSA

LHTAM Secondary Area
Existing Network



11/16/93(TPN202)

Figure B-2



LSA

LHTAM Secondary Area
Future Network

**APPENDIX C
ZONAL LAND USE DATA**

Table C-1 - Existing Land Use Data Summary

TAZ	SDU (DU)	MDU (DU)	Commercial (TSF)	Office (TSF)	Medical Office (TSF)	Mixed Use (TSF)	Industrial/ Bus. Park (TSF)
Annexation Area							
605		502					
606		626	7.20	105.00			
607				43.50			285.20
608				370.80			
609	245	152					
610	240	92	89.10				
611							1,899.13
612	225		451.50				
613							
Total	710	1,372	547.80	519.30	0.00	0.00	2,184.33
City of Laguna Hills							
614			99.24				
615			350.90				
616							
617				268.00			
618							
619				98.60			
620		548	1.50				
621		216	131.10	196.23			
622	75						
623	300						
624	65			80.00			
625	350	50					
626			172.07				
627		205					
628			55.70				
629			130.30				
630	1,095		135.60	20.00			
631		366					
632							
633		324					
634	187	248					
635	15	369					
636	158		56.40				
637			51.80				
638	205						
639	421			18.20			
640	280						
641	245						
642			155.20	29.00			
643			85.21				
644		306	22.40				
645	88						
646	357						
647	355						
648	54						
649	710						
650	525	88					
651			56.80	111.20			
Total	5,485	2,720	1,504.22	821.23	0.00	0.00	0.00
Grand Total	6,195	4,092	2,052.02	1,340.53	0.00	0.00	2,184.33

(DU) - Dwelling Units

(TSF) - Thousand Square Feet

Table C-2 - Preferred General Plan Alternative Land Use Summary

TAZ	Residential					Commerical					Office (TSF)	Medical Office (TSF)	Mixed Use (TSF)	Industrial			
	Estate (DU)	Low (DU)	Med-Low (DU)	Medium (DU)	High (DU)	Neighbor. (TSF)	Commun. (TSF)	Freeway (TSF)	Regional (TSF)	Village (TSF)				Indust. (TSF)	Park (TSF)	Institut. (TSF)	Public (TSF)
Annexation Area																	
605					502												4.5
606					626									264.8			6.5
607														571.1			
608														703.5			24.0
609		245		152													12.9
610		240		92			288.7										1.6
611														3,107.0			8.5
612					522			648.2									
613								183.5									
Total	0	485	1,372	0	522	0.0	288.7	831.7	0.0	0.0	0.0	0.0	0.0	4,646.4	0.0	0.0	58.0
City of Laguna Hills																	
614											114.1						
615												403.5					
616												308.2					
617																	
618									1,346.4								
619												113.4					
620					620											1.5	
621					248		150.8				225.7						
622			75														14.3
623			300														20.9
624		65									41.4						
625		350		50													6.7
626							304.9										8.3
627			205														
628							152.5										
629													223.5				6.5
630		1,095						122.0					69.5				17.5
631			366														71.3
632																	13.0
633				324													12.8
634			187	248													6.5
635		15	444													2.2	12.7

Table C-2 - Preferred General Plan Alternative Land Use Summary (continued)

TAZ	Residential					Commerical					Medical Office (TSF)	Mixed Use (TSF)	Industrial			
	Estate (DU)	Low (DU)	Med-Low (DU)	Medium (DU)	High (DU)	Neighbor. (TSF)	Commun. (TSF)	Freeway (TSF)	Regional (TSF)	Village (TSF)			Indust. (TSF)	Park (TSF)	Institut. (TSF)	Public (TSF)
636		158						122.0								12.7
637								112.0								
638		205														58.0
639		421													16.0	16.9
640		280														12.3
641		245						122.0								14.5
642								134.2			154.6					
643								226.9								6.2
644				306				93.9								2.3
645			88													
646	339															30.7
647	355															88.9
648		54														0.8
649	710															116.7
650	67	458	88													167.1
651											270.1					
Total	1,471	3,346	1,803	878	868	0.0	1,058.1	483.1	1,346.4	0.0	805.9	825.1	293.0	0.0	0.0	19.7
Grand Total	1,471	3,831	3,175	878	1,390	0.0	1,346.8	1,314.8	1,346.4	0.0	805.9	825.1	293.0	4,646.4	0.0	19.7

(DU) - Dwelling Units

(TSF) - Thousand Square Feet

Preferred General Plan Proposed Intersection Lane Addition Improvements

Intersection	Northbound			Southbound			Eastbound			Westbound			G. P. Improvements	
	Left Thru Right			Left Thru Right			Left Thru Right			Left Thru Right			ICU	ICU
													AM	PM
1. Avenida de la Carlota/El Toro Road			1					1					0.58	0.74
2. Paseo de Valencia/El Toro Road			1		1		1				1		0.89	0.78
3. Avenida de la Carlota/Paseo de Valencia							1			1	1		0.89	0.60
4. Avenida de la Carlota/Los Alisos Boulevard	1												0.62	0.74
5. Paseo de Valencia/Los Alisos Boulevard		1			1								0.87	0.85
6. Paseo de Valencia/Alicia Parkway		1									1		0.77	0.79
7. Paseo de Valencia/Laguna Hills Drive	1					1	2						0.68	0.88
8. Alicia Parkway/I-5 southbound ramps													0.41	0.60
9. Moulton Parkway/Alicia Parkway	1		1	1		1	1		1	1	1		0.79	0.78
10. I-5 southbound ramps-Cabot Road/La Paz Road			1						1				0.83	0.86
11. La Paz Road/Paseo de Valencia													0.81	0.68
12. Moulton Parkway/La Paz Road	1		1	1		1		1	1	1		1	1.19	1.10
13. Cabot Road/Paseo de Valencia	1												0.56	0.57
14. Cabot Road/Oso Parkway							1			1			0.82	0.82
15. Moulton Parkway/Oso Parkway	1			1		1	1		1	1		1	1.17	0.83
16. Moulton Parkway/Lake Forest Drive	1	2			2		1	2		1	1		0.79	0.55
17. Moulton Parkway/Ridge Route Drive	1	1	1	1	1			1		1	1		0.51	0.59
18. Avenida de la Carlota/Ridge Route Drive			1	1				2		2	1	1	0.85	0.67

The lane improvements recommended above are in addition to the existing geometrics.

The source of the improvements are the Moulton Parkway Super Street EIR and the Laguna Hills Mall Renovation and Expansion Plan EIR, as well as recommendations based on the General Plan modelling effort.

Shaded areas are additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall Renovation and Expansion Plan EIR and Moulton Parkway Super Street EIR.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 1
 North/South Roadway: Avenida de la Carlota
 East/West Roadway: El Toro Road

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	40	90	0.02	0.05 *
NBT	1	1,700	540	260	0.32 *	0.15
NBR	2 P	3,400	590	890	0.00	0.00
SBL	0	0	420	290	0.00	0.00
SBT(1)	3	5,100	430	1,170	0.18 *	0.30 *
SBR	0	0	80	50	0.00	0.00
EBL	0	0	0	0	0.00	0.00
EBT	4	6,800	1,050	1,120	0.17 *	0.19 *
EBR	0	0	80	160	0.00	0.00
WBL	2	3,400	150	510	0.04 *	0.15 *
WBT	3	5,100	450	1,240	0.09	0.24
WBR	1 P	1,700	570	450	0.00	0.00
N/S Critical Movements					0.32	0.35
E/W Critical Movements					0.21	0.34
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.05	0.05
ICU					0.58	0.74
Level of Service (LOS)					A	C

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

(1) Actual geometrics are 1-SBL, 1-SBL/T and 1-SBT.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 2
 North/South Roadway: Paseo de Valencia
 East/West Roadway: El Toro Road

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	650	500	0.19	0.15 *
NBT	1	1,700	1,060	390	0.62 *	0.23
NBR	1 P	1,700	550	640	0.00	0.00
SBL	1	1,700	10	20	0.01 *	0.01
SBT	3	5,100	620	1,130	0.12	0.22 *
SBR	1 P	1,700	60	110	0.00	0.00
EBL	2	3,400	40	70	0.01	0.02
EBT	3	5,100	540	620	0.11 *	0.12 *
EBR	1 P	1,700	380	550	0.00	0.05 *
WBL	2	3,400	340	650	0.10 *	0.19 *
WBT	4	6,800	220	440	0.03	0.07
WBR	0	0	5	5	0.00	0.00
N/S Critical Movements					0.63	0.37
E/W Critical Movements					0.21	0.31
Right Turn Critical Movement					0.00	0.05
Clearance Interval					0.05	0.05
ICU					0.89	0.78
Level of Service (LOS)					D	C

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

PREFERRED GENERAL PLAN INTERSECTION CAPACITY UTILIZATION

Intersection Number: 3
 North/South Roadway: Avenida de la Carlota
 East/West Roadway: Paseo de Valencia

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	310	115	0.18 *	0.07 *
NBT	2	3,400	560	460	0.16	0.14
NBR	1 P	1,700	220	380	0.00	0.00
SBL	1	1,700	10	10	0.01	0.01
SBT	2	3,400	800	270	0.24 *	0.08 *
SBR	1 P	1,700	600	800	0.00	0.32 *
EBL	2	3,400	940	250	0.28 *	0.07 *
EBT	1	1,700	10	50	0.01	0.03
EBR	1 P	1,700	30	50	0.00	0.00
WBL	3	5,100	500	520	0.10	0.10
WBT	2	3,400	460	270	0.14 *	0.09 *
WBR	0	0	10	20	0.00	0.00
N/S Critical Movements					0.42	0.07
E/W Critical Movements					0.42	0.16
Right Turn Critical Movement					0.00	0.32
Clearance Interval					0.05	0.05
ICU					0.89	0.60
Level of Service (LOS)					D	A

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

PREFERRED GENERAL PLAN INTERSECTION CAPACITY UTILIZATION

Intersection Number: 4
 North/South Roadway: Avenida de la Carlota
 East/West Roadway: Los Alisos Blvd

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	10	5	0.01	0.00
NBT	1	1,700	10	10	0.01 *	0.01 *
NBR	0	0	10	5	0.00	0.00
SBL	2	3,400	190	870	0.06 *	0.26 *
SBT	0	0	0	0	0.00	0.00
SBR	1 P	1,700	60	460	0.00	0.00
EBL	1	1,700	450	190	0.26 *	0.11 *
EBT	3	5,100	970	760	0.19	0.15
EBR	1 P	1,700	10	10	0.00	0.00
WBL	1	1,700	10	10	0.01	0.01
WBT	2	3,400	820	1,070	0.24 *	0.31 *
WBR	1 P	1,700	490	370	0.00	0.00
N/S Critical Movements					0.07	0.27
E/W Critical Movements					0.50	0.42
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.05	0.05
ICU					0.62	0.74
Level of Service (LOS)					B	C

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 5
 North/South Roadway: Paseo de Valencia
 East/West Roadway: Los Alisos Blvd

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	0	0	0	0	0.00	0.00 *
NBT	3	5,100	2,610	1,000	0.51 *	0.20
NBR	1 P	1,700	1,370	440	0.13 *	0.00
SBL	2	3,400	280	490	0.08 *	0.14
SBT	3	5,100	500	2,820	0.10	0.55 *
SBR	0	0	0	0	0.00	0.00
EBL	0	0	0	0	0.00	0.00
EBT	0	0	0	0	0.00 *	0.00 *
EBR	0	0	0	0	0.00	0.00
WBL	3	5,100	530	1,040	0.10 *	0.20 *
WBT	0	0	0	0	0.00	0.00
WBR	1 P	1,700	390	540	0.11 *	0.05 *
N/S Critical Movements					0.59	0.55
E/W Critical Movements					0.10	0.20
Right Turn Critical Movement					0.13	0.05
Clearance Interval					0.05	0.05
ICU					0.87	0.85
Level of Service (LOS)					D	D

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

▨ - Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

PREFERRED GENERAL PLAN INTERSECTION CAPACITY UTILIZATION

Intersection Number: 6
 North/South Roadway: Paseo de Valencia
 East/West Roadway: Alicia Parkway

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio		
			AM	PM	AM	PM	
NBL	2	3,400	40	50	0.01	0.01	*
NBT	3	5,100	860	300	0.17	0.06	
NBR	1 P	1,700	130	80	0.00	0.00	
SBL	2	3,400	300	530	0.09	0.16	
SBT	2	3,400	320	1,100	0.09	0.32	*
SBR	1 F	1,700	280	1,370	0.16	0.81	
EBL	2	3,400	960	480	0.28	0.14	*
EBT	3	5,100	1,170	840	0.24	0.18	
EBR	0	0	70	70	0.00	0.00	
WBL	1	1,700	60	270	0.04	0.16	
WBT	3	5,100	580	1,380	0.11	0.27	*
WBR	1 P	1,700	470	370	0.07	0.00	
N/S Critical Movements					0.26	0.33	
E/W Critical Movements					0.39	0.41	
Right Turn Critical Movement					0.07	0.00	
Clearance Interval					0.05	0.05	
ICU					0.77	0.79	
Level of Service (LOS)					C	C	

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 7
North/South Roadway: Paseo de Valencia
East/West Roadway: Laguna Hills Drive

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	530	560	0.16	0.16 *
NBT	3	5,100	1,450	470	0.29 *	0.10
NBR	0	0	20	20	0.00	0.00
SBL	1	1,700	10	30	0.01 *	0.02
SBT	3	5,100	390	1,790	0.08	0.35 *
SBR	1	1,700	480	1,470	0.28	0.86
EBL	2	3,400	1,500	570	0.00	0.00
EBT	1	1,700	20	20	0.30 *	0.12 *
EBR	1	P 1,700	750	630	0.27	0.17 *
WBL	1	1,700	50	50	0.03 *	0.03 *
WBT	1	1,700	20	20	0.02	0.02
WBR	0	0	20	10	0.00	0.00
N/S Critical Movements					0.30	0.51
E/W Critical Movements					0.33	0.15
Right Turn Critical Movement					0.00	0.17
Clearance Interval					0.05	0.05
ICU					0.68	0.88
Level of Service (LOS)					B	D

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

(1) - Actual geometrics are 1-EBL and 1-EBL/T.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 8
 North/South Roadway: Alicia Parkway
 East/West Roadway: I-5 southbound ramps

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	8	13,600	0	0	0.00	0.00 *
NBT	3	5,100	1,100	1,320	0.24 *	0.29
NBR	0	0	120	160	0.00	0.00
SBL	0	0	0	0	0.00 *	0.00
SBT	3	5,100	600	1,330	0.16	0.32 *
SBR	0	0	230	320	0.00	0.00
EBL	0.0	0	450	790	0.00	0.00
EBT(1)	3	5,100	0	0	0.12 *	0.23 *
EBR	0.0	0	140	360	0.00	0.00
WBL	0	0	0	0	0.00 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	0	0	0	0	0.00	0.00
N/S Critical Movements					0.24	0.32
E/W Critical Movements					0.12	0.23
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.05	0.05
ICU					0.41	0.60
Level of Service (LOS)					A	A

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

(1) - Actual geometrics are 1-EBL, 1-EBL/R, and 1-EBR.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 9
North/South Roadway: Moulton Parkway
East/West Roadway: Alicia Parkway

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio		
			AM	PM	AM	PM	
NBL	2	3,400	420	230	0.12	0.07	*
NBT	3	5,100	2,410	860	0.47	0.17	*
NBR	1 P	1,700	990	780	0.07	0.00	
SBL	2	3,400	130	330	0.04	0.10	*
SBT	3	5,100	520	2,550	0.10	0.50	*
SBR	1 P	1,700	40	300	0.00	0.00	
EBL	2	3,400	80	70	0.02	0.02	*
EBT	3	5,100	620	190	0.12	0.04	*
EBR	1 P	1,700	60	100	0.00	0.00	
WBL	2	3,400	140	330	0.04	0.10	*
WBT	3	5,100	350	710	0.07	0.14	*
WBR	1 P	1,700	130	230	0.00	0.00	
N/S Critical Movements					0.51	0.57	
E/W Critical Movements					0.16	0.16	
Right Turn Critical Movement					0.07	0.00	
Clearance Interval					0.05	0.05	
ICU					0.79	0.78	
Level of Service (LOS)					C	C	

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 10
 North/South Roadway: I-5 southbound ramps-Cabot Road
 East/West Roadway: La Paz Road

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio		
			AM	PM	AM	PM	
NBL	1	1,700	450	490	0.26 *	0.29	
NBT	1	1,700	20	10	0.01	0.01	*
NBR	1 P	1,700	800	390	0.18 *	0.00	
SBL	0.0	0	120	300	0.00	0.00	
SBT(1)	3.0	5,100	270	470	0.12 *	0.19	*
SBR	0	0	240	200	0.00	0.00	
EBL	0	0	0	0	0.00	0.00	
EBT	2	3,400	900	830	0.26 *	0.24	*
EBR	1 P	1,700	390	540	0.00	0.00	
WBL	1	1,700	350	630	0.21 *	0.37	*
WBT	2	3,400	480	520	0.23	0.27	
WBR	0	0	300	400	0.00	0.00	
N/S Critical Movements					0.13	0.20	
E/W Critical Movements					0.47	0.61	
Right Turn Critical Movement					0.18	0.00	
Clearance Interval					0.05	0.05	
ICU					0.83	0.86	
Level of Service (LOS)					D	D	

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

(1) - Actual geometrics are 1-SBL, 1-SBL/T, and 1-SBT/R.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 11
 North/South Roadway: La Paz Road
 East/West Roadway: Paseo de Valencia

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	170	120	0.10	0.07 *
NBT	2	3,400	640	830	0.26 *	0.26
NBR	0	0	240	70	0.00	0.00
SBL	1	1,700	140	80	0.08 *	0.05
SBT	2	3,400	420	810	0.19	0.29 *
SBR	0	0	230	180	0.00	0.00
EBL	1	1,700	130	250	0.08 *	0.15
EBT	2	3,400	340	770	0.10	0.23 *
EBR	1 P	1,700	50	160	0.00	0.00
WBL	1	1,700	210	60	0.12	0.04 *
WBT	2	3,400	700	240	0.34 *	0.09
WBR	0	0	440	80	0.00	0.00
N/S Critical Movements					0.34	0.36
E/W Critical Movements					0.42	0.27
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.05	0.05
ICU					0.81	0.68
Level of Service (LOS)					D	B

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

PREFERRED GENERAL PLAN INTERSECTION CAPACITY UTILIZATION

Intersection Number: 12
 North/South Roadway: Moulton Parkway
 East/West Roadway: La Paz Road

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	70	440	0.02	0.13 *
NBT	3	5,100	3,820	1,100	0.75 *	0.22
NBR	1 P	1,700	340	220	0.00	0.00
SBL	2	3,400	120	140	0.04 *	0.04
SBT	3	5,100	780	2,690	0.15	0.53 *
SBR	1 P	1,700	280	160	0.00	0.00
EBL	2	3,400	410	420	0.12 *	0.12
EBT	3	5,100	410	740	0.08	0.15 *
EBR	1 P	1,700	390	640	0.13 *	0.10 *
WBL	2	3,400	100	460	0.03	0.14 *
WBT	3	5,100	520	470	0.10 *	0.09
WBR	1 P	1,700	60	20	0.00	0.00
N/S Critical Movements					0.79	0.66
E/W Critical Movements					0.22	0.29
Right Turn Critical Movement					0.13	0.10
Clearance Interval					0.05	0.05
ICU					1.19	1.10
Level of Service (LOS)					F	F

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 13
 North/South Roadway: Cabot Road
 East/West Roadway: Paseo de Valencia

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	1,120	350	0.33 *	0.10 *
NBT	2	3,400	1,250	520	0.37	0.15
NBR	0	0	0	0	0.00	0.00
SBL	0	0	0	0	0.00	0.00
SBT	2	3,400	560	1,290	0.17 *	0.40 *
SBR	0	0	30	70	0.00	0.00
EBL	1	1,700	20	40	0.01 *	0.02 *
EBT	0	0	0	0	0.00	0.00
EBR	1 F	1,700	340	750	0.20	0.44
WBL	0	0	0	0	0.00	0.00
WBT	0	0	0	0	0.00 *	0.00 *
WBR	0	0	0	0	0.00	0.00
N/S Critical Movements					0.50	0.50
E/W Critical Movements					0.01	0.02
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.05	0.05
ICU					0.56	0.57
Level of Service (LOS)					A	A

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 14
 North/South Roadway: Cabot Road
 East/West Roadway: Oso Parkway

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	70	60	0.04	0.04
NBT	2	3,400	820	330	0.24 *	0.10 *
NBR	1 P	1,700	440	630	0.00	0.11 *
SBL	2	3,400	450	830	0.13 *	0.24 *
SBT	2	3,400	440	460	0.15	0.16
SBR	0	0	70	100	0.00	0.00
EBL	2	3,400	250	80	0.07	0.02
EBT	3	5,100	760	750	0.16 *	0.16 *
EBR	0	0	70	70	0.00	0.00
WBL	2	3,400	830	550	0.24 *	0.16 *
WBT	3	5,100	730	690	0.32	0.25
WBR	0	0	900	610	0.00	0.00
N/S Critical Movements					0.37	0.34
E/W Critical Movements					0.40	0.32
Right Turn Critical Movement					0.00	0.11
Clearance Interval					0.05	0.05
ICU					0.82	0.82
Level of Service (LOS)					D	D

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 15
 North/South Roadway: Moulton Parkway
 East/West Roadway: Oso Parkway

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	70	130	0.02	0.04 *
NBT	3	5,100	3,530	830	0.71 *	0.17
NBR	0	0	70	50	0.00	0.00
SBL	2	3,400	210	420	0.06 *	0.12
SBT	3	5,100	430	2,530	0.08	0.50 *
SBR	1 U	1,700	440	590	0.13 *	0.00
EBL	2	3,400	280	340	0.08 *	0.10 *
EBT	3	5,100	470	820	0.09	0.16
EBR	1 U	1,700	40	230	0.00	0.00
WBL	2	3,400	60	100	0.02	0.03
WBT	3	5,100	710	720	0.14 *	0.14 *
WBR	1 U	1,700	360	220	0.04 *	0.00
N/S Critical Movements					0.77	0.54
E/W Critical Movements					0.22	0.24
Right Turn Critical Movement					0.13	0.00
Clearance Interval					0.05	0.05
ICU					1.17	0.83
Level of Service (LOS)					F	D

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 16
 North/South Roadway: Moulton Parkway
 East/West Roadway: Lake Forest Drive

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	10	10	0.00	0.00 *
NBT	4	6,800	1,830	410	0.27 *	0.06
NBR	1 P	1,700	940	410	0.18 *	0.01 *
SBL	2	3,400	260	530	0.08 *	0.16
SBT	4	6,800	300	1,600	0.05	0.25 *
SBR	0	0	50	100	0.00	0.00
EBL	2	3,400	200	70	0.06	0.02
EBT	3	5,100	400	340	0.08 *	0.07 *
EBR	1 P	1,700	10	10	0.00	0.00
WBL	2	3,400	370	580	0.11 *	0.17 *
WBT	3	5,100	260	300	0.05	0.06
WBR	1 P	1,700	560	170	0.20 *	0.00
N/S Critical Movements					0.35	0.25
E/W Critical Movements					0.19	0.24
Right Turn Critical Movement					0.20	0.01
Clearance Interval					0.05	0.05
ICU					0.79	0.55
Level of Service (LOS)					C	A

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 17
 North/South Roadway: Moulton Parkway
 East/West Roadway: Ridge Route Drive

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	2	3,400	150	90	0.04	0.03 *
NBT	4	6,800	2,510	540	0.37 *	0.08
NBR	1 P	1,700	330	130	0.00	0.00
SBL	2	3,400	40	110	0.01 *	0.03
SBT	4	6,800	390	1,860	0.06	0.28 *
SBR	0	0	50	70	0.00	0.00
EBL	1	1,700	40	80	0.02 *	0.05
EBT	2	3,400	130	230	0.04	0.07 *
EBR	1 P	1,700	50	250	0.00	0.05 *
WBL	2	3,400	140	370	0.04	0.11 *
WBT	2	3,400	220	170	0.06 *	0.05
WBR	1 P	1,700	70	30	0.00	0.00
N/S Critical Movements					0.38	0.31
E/W Critical Movements					0.08	0.18
Right Turn Critical Movement					0.00	0.05
Clearance Interval					0.05	0.05
ICU					0.51	0.59
Level of Service (LOS)					A	A

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

**PREFERRED GENERAL PLAN
INTERSECTION CAPACITY UTILIZATION**

Intersection Number: 18
 North/South Roadway: Avenida de la Carlota
 East/West Roadway: Ridge Route Drive

Improvements: General Plan Level Improvements

Move- ment	Lanes	Capacity	Volume		V/C Ratio	
			AM	PM	AM	PM
NBL	1	1,700	490	180	0.29	0.11 *
NBT	2	3,400	970	270	0.29 *	0.08
NBR	1 P	1,700	860	650	0.11 *	0.13 *
SBL	1	1,700	250	210	0.15 *	0.12
SBT	2	3,400	220	1,220	0.09	0.39 *
SBR	0	0	70	90	0.00	0.00
EBL	1	1,700	100	60	0.06 *	0.04
EBT	2	3,400	330	320	0.10	0.09 *
EBR	1 P	1,700	150	550	0.00	0.12 *
WBL	2	3,400	360	590	0.11	0.17 *
WBT	1	1,700	330	350	0.19 *	0.21
WBR	1 U	1,700	220	170	0.00	0.00
N/S Critical Movements					0.44	0.50
E/W Critical Movements					0.25	0.12
Right Turn Critical Movement					0.11	0.00
Clearance Interval					0.05	0.05
ICU					0.85	0.67
Level of Service (LOS)					D	B

* Critical Movement

Right Turn Conditions:

- P Protected right turn movement.
- U Unprotected right turn movement.
- N No right turn on red.
- F Free right turn lane.

- Additional lane improvements over existing and committed project conditions. Committed projects include the Laguna Hills Mall EIR and Moulton Parkway Super Street EIR.

B. AIR QUALITY ANALYSIS

**LAGUNA HILLS AIR QUALITY DATA AND
PROPOSED GENERAL PLAN IMPACT ANALYSIS**

January 27, 1994

Prepared for:

*The City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, California 92653
(714) 707-2600*

Prepared by:

*LSA Associates, Inc.
1 Park Plaza, Suite 500
Irvine, California 92714
(714) 553-0666
LSA Project #TPN202*

LAGUNA HILLS AIR QUALITY DATA AND PROPOSED GENERAL PLAN IMPACT ANALYSIS

This analysis estimates air pollutant emissions and/or ambient concentration increments from existing, project related, and cumulative sources that could potentially impact sensitive receptors within the project area or its vicinity. Air quality impacts will be discussed in the following order: 1) short-term impacts due to construction activity, 2) long-term impacts due to implementation of the proposed General Plan, and 3) conformity/consistency with the AQMP. The significance of such impacts will be determined according to the criteria specified below. Also included at the end of this technical report is the air quality impact analysis computer model output generated by LSA. This information is provided for information purposes only, and is summarized in the following text, where applicable.

SIGNIFICANCE CRITERIA

Criteria for determining the significance of air quality impacts are based on federal, State and local pollution standards/regulations. Impacts are considered significant by the City if project emissions meet any of the following criteria:

- The project is capable of an increase in daily emissions that exceeds the following SCAQMD suggested threshold criteria:

Pollutant	Threshold Criteria ¹
Reactive Organic Compounds (ROC)	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day
Suspended Particulates (PM ₁₀)	150 lbs/day
Nitrogen Oxides (NO _x)	55 lbs/day
Sulphur Oxides (SO _x)	150 lbs/day

- Project emissions exceed the State's one hour and/or eight hour CO standards for carbon monoxide or create a carbon monoxide hot spot.
- Project emissions interfere with the attainment of federal or State ambient air quality standards or are inconsistent with the Air Quality Management Plan.

¹ The SCAQMD suggested thresholds identified above are found in the District's revised CEQA Air Quality Handbook, adopted in February, 1993.

The analysis provided below has been developed using the guidance in the South Coast Air Quality Management District's CEQA Air Quality Handbook (1993).

CONSTRUCTION IMPACTS

Quantification of pollutant emissions associated with construction of the development identified in the proposed General Plan would be speculative at this time. Since estimates of construction emissions are highly dependent on the location, size and construction schedule of a project, any attempt to quantify construction emissions at this level of planning may lead to erroneous conclusions regarding the significance of potential impacts. It is appropriate to require planned developments or individual projects to assess the potential significance of their construction emissions. Air quality performance standards for construction activities have been provided in the General Plan Implementation and Monitoring Program; all future development projects must evaluate and include the appropriate standards to reduce potential pollutant emissions during construction.

REGIONAL IMPACTS

Air quality impacts associated with implementation of the proposed General Plan have been estimated for air pollutant emissions that affect regional air quality. Calculations for emissions associated with motor vehicle trips and utility consumption (i.e., off-site electricity generation and on-site combustion of natural gas) for the Laguna Hills General Plan have been provided in Table A, Emissions From Electricity Usage and Natural Gas Consumption, and Table B, Emissions from Motor Vehicle Trips. The following is a summary of the results of these calculations.

Estimated pollutant emissions associated with implementation of the General Plan and the No Project Alternative for the post-2010 timeframe are summarized and provided in Table C. As illustrated in this Table, emissions of all pollutants would increase with implementation of the preferred General Plan when compared with the No Project Alternative. Total emissions for the City of Laguna Hills exceed the suggested SCAQMD threshold criteria; however, this is expected due to the size of the City, and because these thresholds were developed for individual development projects. To determine the effect of growth associated with the General Plan on regional air quality, a comparison of the future No Project Alternative with the proposed project is appropriate. As shown in Table C, the difference in emissions between the two future scenarios illustrates the potential increase in pollutants associated with future growth associated with the General Plan. As demonstrated in this Table, the proposed General Plan would result in emissions increases that exceed the thresholds for carbon monoxide, reactive organic compounds and

**Table A - Emissions from Electricity Usage and
Natural Gas Consumption - Laguna Hills General Plan**

Scenario	Emissions (lb/day)				
	CO	ROC	NOx	SOx	PM10
Existing/Future without Preferred General Plan Alternative					
Electricity Usage	130.0	6.5	747.5	78.0	26.0
Natural Gas Consumption	<u>50.9</u>	<u>13.5</u>	<u>240.2</u>	<u>Negl.</u>	<u>0.5</u>
Total	180.9	20.0	987.7	78.0	26.5
Future with Preferred General Plan Alternative					
Electricity Usage	133.7	6.7	768.7	80.2	26.7
Natural Gas Consumption	<u>52.4</u>	<u>13.9</u>	<u>247.2</u>	<u>Negl.</u>	<u>0.5</u>
Total	186.1	20.6	1,015.9	80.2	27.3

Source: LSA Associates, Inc., and CEQA Handbook, pg. A9-114, A9-117

**Table B - Emissions from Motor Vehicle Trips Associated with
Laguna Hills General Plan**

Summary: Regional Project Emissions (lbs/day)					
Scenario	CO	ROC	NOx	SOx	PM10
Existing	34,353.7	4,685.1	3,432.4	281.3	439.1
Post-2010 w/o GPA	14,661.5	973.5	1,617.2	242.3	482.9
Post-2010 w/GPA	16,931.2	1,124.2	1,867.6	279.8	557.6
Difference: without GPA, Post - 2010	2,269.7	150.7	250.4	37.5	74.7
SCAQMD Significance Threshold Criteria	550.0	55.0	55.0	150.0	150.0

Source: LSA Associates, Inc.

Table C - Summary of Emissions (lbs/day)

	CO	ROC	NOx	SOx	PM10
Existing (1990)					
Motor Vehicles	34,354	4,685	3,432	281	439
Utilities	<u>181</u>	<u>20</u>	<u>988</u>	<u>78</u>	<u>27</u>
Total	34,535	4,705	4,420	359	466
No Project (Post-2010)					
Motor Vehicles	14,662	974	1,617	242	483
Utilities	<u>181</u>	<u>20</u>	<u>988</u>	<u>78</u>	<u>27</u>
Total	14,843	994	2,605	320	510
Project/Preferred Alternative (Post-2010)					
Motor Vehicles	16,931	1,124	1,868	280	558
Utilities	<u>186</u>	<u>21</u>	<u>1,016</u>	<u>80</u>	<u>27</u>
Total	17,117	1,145	2,884	360	585
Differential Between Future Scenarios	2,274	151	279	40	75
Suggested SCAQMD Threshold Criteria	550	55	55	150	150

Source: LSA Associates, Inc., 1993

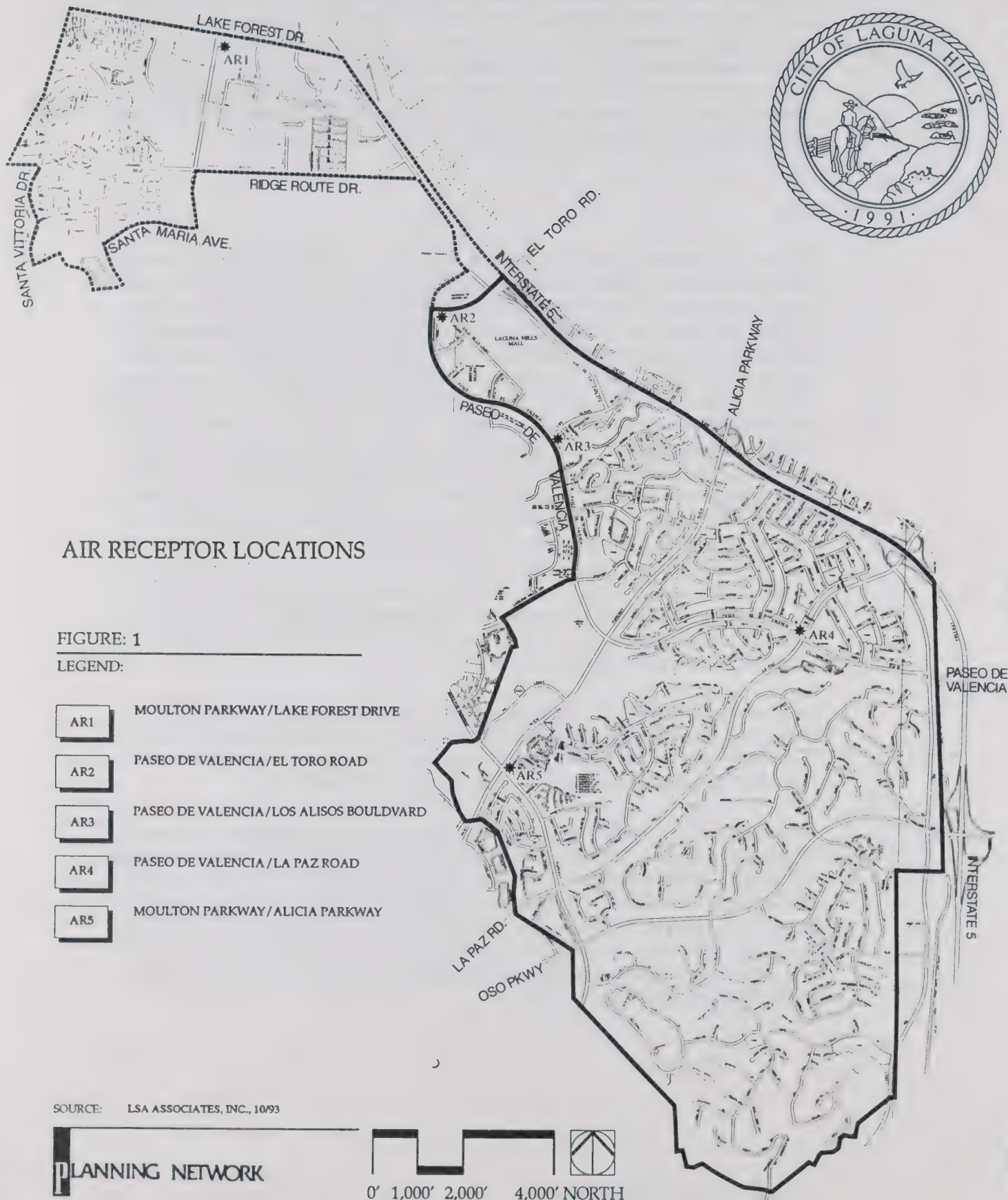
nitrogen oxides. Emissions of these pollutants are potentially significant air quality impacts. With implementation of General Plan Strategies B.1 through B.13 and the General Plan Implementation and Monitoring Program performance standards related to air quality, these emissions would be reduced; however, remaining emissions would continue to result in significant air quality impacts. Emissions of sulphur oxides and suspended particulate matter would be below the thresholds, and are not significant.

LOCAL EMISSIONS

Carbon monoxide is used as an indicator of a project's direct and indirect traffic impact on local air quality because CO does not readily disperse in the local environment. To determine the General Plan's effect on local air quality, the California Line Source Dispersion Model (CALINE4), supplemented by background carbon monoxide (CO) data obtained from SCAQMD monitoring data at the El Toro station, was utilized to estimate CO levels at five existing intersections within the study area. The CALINE4 model was developed by the Office of Transportation Laboratory, and uses traffic volume information, EMFAC7EP emission factors provided in the SCAQMD CEQA Air Quality Handbook, intersection geometry and local meteorology to predict air pollution concentrations near roadways. These five receptors were chosen due to their proximity to a sensitive land uses, such as residences, schools or Leisure World, or their potential to experience congestion substantial enough to cause exceedances of the federal and/or State CO standards. Figure 1 illustrates the location of the five receptors modelled in this analysis. The purpose of this analysis was to evaluate any changes to ambient CO levels associated with implementation of the General Plan. The results of the CALINE4 calculations are provided in Table D.

As illustrated in Table D, CO concentrations at five receptors within the City of Laguna Hills would be below the federal and State standards with implementation of the proposed General Plan and anticipated future growth outside the City, and are therefore below the level of significance.

As noted in the General Plan, a large volume of existing traffic on arterials within the City are vehicles whose trip origins and destinations are outside the City of Laguna Hills. It is projected that these "pass through" trips will continue in the future. Summarized below are the five receptors identified in the CO analysis and the percentage of daily trips that are identified as "pass through" trips in the traffic modelling prepared for the proposed General Plan. Table E provides a full breakdown of the "pass through" trip analysis for the five CO receptor sites.



SOURCE: LSA ASSOCIATES, INC., 10/93

**Table D - Worst Case CO Concentrations (In Parts Per Million)
at Selected Sensitive Receptor Locations**

Air Receptor Locations			Existing (1993)	Future w/GPA (Post-2010)
AR1	Moulton Parkway/Lake Forest Drive	1 hour	16.9	7.3
		8 hour	10.5 ¹	4.5
AR2	Paseo de Valencia/El Toro Road	1 hour	13.8	7.3
		8 hour	8.6	4.5
AR3	Paseo de Valencia/Los Alisos Blvd.	1 hour	18.7	9.2
		8 hour	11.7 ¹	5.7
AR4	Paseo de Valencia/La Paz Road	1 hour	12.6	6.0
		8 hour	7.9	3.7 ²
AR5	Moulton Parkway/Alicia Parkway	1 hour	17.0	8.7 ²
		8 hour	10.6 ¹	5.4
Background Concentrations: ¹		1 hour	8.5	3.7
		8 hour	5.3	2.3
State 1 hour CO standard:			20.0	20.0
State and federal 8 hour CO standard:			9.1	9.1

Source: LSA Associates, Inc.

¹ Concentrations that exceed the State and federal 8-hour air quality standard of not more than 9.0 ppm.

² CO monitoring data from SCAQMD's El Toro station were used to approximate worst case concentrations in the vicinity of the proposed project site. Table 5-2, Projected Future Year 1-Hour CO Concentrations, and Table 5-3, Project Future Year 8-Hour CO Concentrations, from the April, 1993, CEQA Handbook were used as the background concentrations for the existing (1993) scenario. Year 2010 background concentrations were obtained from Table 6-2 and Table 6-5 of SCAQMD Technical Report V-1, December, 1990.

TABLE E
Laguna Hills
Pass-Through Trips

Location	Trip Type	1990					2010 (with GPA)				
		West Side	North Side	East Side	South Side	Avg.	West Side	North Side	East Side	South Side	Avg.
Moulton Pkwy/ Lake Forest Dr.	External-External:	300	29000	9000	29600	16975	15300	33500	15800	33400	24500
	Internal-External:	5200	7400	9300	8100	7500	4200	7700	8100	6800	6700
	Internal-Internal:	100	0	200	100	100	100	0	200	100	100
	Total:	5600	36400	18500	37800	24575	19600	41200	24100	40300	31300
	Ratio: (Ext-Ext)/	5.4%	79.7%	48.6%	78.3%	69.1%	78.1%	81.3%	65.6%	82.9%	78.3%
Paseo de Valencia/ El Toro Road	External-External:	18700	12400	35700	31200	24500	21300	23800	28100	31800	26250
	Internal-External:	6400	7400	10700	21600	11525	7700	10800	7000	22200	11925
	Internal-Internal:	200	1600	500	2200	1125	200	1100	200	1400	725
	Total:	25300	21400	46900	55000	37150	29200	35700	35300	55400	38900
	Ratio: (Ext-Ext)/	73.9%	57.9%	76.1%	56.7%	65.9%	72.9%	66.7%	79.6%	57.4%	67.5%
Paseo de Valencia/ Los Alisos Blvd.	External-External:	21100	3600	22300		15667	19800	7300	24700		17267
	Internal-External:	10800	1500	11600		7967	16500	2100	17700		12100
	Internal-Internal:	3400	400	3300		2367	2900	400	2900		2067
	Total:	35300	5500	37200		26000	39200	9800	45300		31433.33
	Ratio: (Ext-Ext)/	59.8%	65.5%	59.9%		60.3%	50.5%	74.5%	54.5%		54.9%
Paseo de Valencia/ La Paz Road	External-External:	11300	4900	13300	2800	8075	13000	6000	14300	4700	9500
	Internal-External:	8100	4700	10100	1600	6125	8100	6800	10000	4000	7225
	Internal-Internal:	2500	1400	2000	400	1575	1600	1200	1500	200	1125
	Total:	21900	11000	25400	4800	15775	22700	14000	25800	8900	17850
	Ratio: (Ext-Ext)/	51.6%	44.5%	52.4%	58.3%	51.2%	57.3%	42.9%	55.4%	52.8%	53.2%
Moulton Pkwy/ Alicia Pkwy	External-External:	2400	21300	13900	32900	17625	16400	28600	20200	32700	24475
	Internal-External:	4500	5900	9000	9400	7200	7100	6100	12600	9800	8900
	Internal-Internal:	1200	400	2200	1600	1350	700	400	1800	1400	1075
	Total:	8100	27600	25100	43900	26175	24200	35100	34600	43900	34450
	Ratio: (Ext-Ext)/	29.6%	77.2%	55.4%	74.9%	67.3%	67.8%	81.5%	58.4%	74.5%	71.0%

Intersection	1990	2010
Moulton Parkway/Lake Forest Drive (AR1)	69%	78%
Paseo de Valencia/El Toro Road (AR2)	66%	68%
Paseo de Valencia/Los Aliso Boulevard (AR3)	60%	55%
Paseo de Valencia/La Paz Road (AR4)	51%	53%
Moulton Parkway/Alicia Parkway (AR5)	67%	71%

As shown above, a high percentage of "pass through" trips occur at these intersections, i.e., trips that the City cannot control through land use policy or other means. Accordingly, emissions of air pollutants associated with these "pass through" trips are a majority of the emissions occurring at these locations, and are not controllable by the City's proposed land use or transportation policies.

AQMP CONFORMITY

The 1991 AQMP Amendment includes procedures by which SCAG will determine whether a project conforms with the AQMP. These procedures are outlined in the "Conformity Review Procedures Related to Growth Management" adopted by SCAG (hereinafter referred to as Conformity Guidelines). According to the Conformity Guidelines, a development project is subject to an AQMP conformity review if the following two conditions apply: 1) the jurisdiction in which the project is located has not adopted an Air Quality Element of its General Plan that is consistent with the AQMP (as determined by SCAG); and 2) the project is considered to be of statewide, regional or areawide significance, as specified in Appendix A to the Conformity Guidelines. It should be noted that SCAG has not developed conformity guidelines for planning documents, such as the proposed General Plan, and that the guidance for development projects has been applied to this project as a means to determine its conformity with the AQMP.

Since the City of Laguna Hills does not yet have a SCAG approved Air Quality Element, and because the project exceeds the employment thresholds for commercial and industrial uses specified in the Conformity Guidelines, the project is subject to an AQMP conformity review. Office or commercial uses that employ more than 1,000 people are defined as regionally significant projects in Appendix A of the Conformity Guidelines. The Conformity Guidelines list three criteria against which a regionally significant development project should be judged:

- Criterion No. 1: The project is contributing to attainment of the appropriate subregional vehicle miles travelled (VMT) target, *OR*, the project is contributing to attainment of the appropriate subregional jobs/housing balance performance ratio.

- Criterion No. 2: A project is required to demonstrate that vehicle trips and vehicle miles traveled have been reduced to the greatest extent feasible by the application of transportation demand management strategies.
- Criterion No. 3: The project's environmental document should provide an analysis to demonstrate that: 1) the project will not have a significant negative impact on air quality in the long term (i.e., five years or longer); 2) transportation, land use and energy conservation control measures are used to the maximum extent feasible to mitigate the impact of the project on air quality; and 3) the impact of the project on air quality is analyzed on a city or subregional level, and on a regional level.

The following sections describe project conformity with each of these three criteria.

Criterion No. 1: Jobs/Housing Balance

The Regional Growth Management Plan (GMP) prepared by SCAG states that "Jobs and housing are in balance when an area has enough employment opportunities for most of the people who live there and enough housing opportunities for most of the people who work there."

The concept of jobs/housing balance is based on the premise that a shift in the location of forecast employment growth in the region to relatively housing rich subregions, together with a redistribution of the forecast growth in housing in the region to relatively jobs rich subregions, would significantly reduce congestion on the regional transportation network, and thereby produce a significant reduction in air pollution compared to the situation that would occur if these redistributions did not take place. The following discussion identifies the proposed project's potential effect on the subregional jobs/housing balance.

The proposed project is located within the Southeast Orange subregion, as defined by SCAG. The GMP predicts that this subregion will be "jobs rich" in the year 2010 and its jobs to housing ratio will be 1.76, with the desired jobs to housing ratio identified in the GMP as 1.44. Jobs created as a function of implementation of the proposed General Plan were estimated as part of the modelling effort conducted for the traffic analysis. Through this modelling effort, it was estimated that approximately 12,975 jobs would be created by the year 2010 as a result of intensification of the existing uses in the vicinity of the Laguna Hills Mall and within the annexation area.

Utilizing the jobs/housing balance analysis developed by SCAG, 1,638 new dwelling units would be associated with the anticipated job growth to assist in achieving the desired subregional jobs/housing balance ratio. Construction of approximately 74 dwelling units is included as a component of the

proposed General Plan. The 74 dwelling units identified above are associated with 74 separate infill parcels located throughout the City that are appropriate for residential development. As noted in the discussion of housing and land use in the Community Development and Design Component of the General Plan, the City of Laguna Hills is essentially built out with few vacant parcels available to construct new development, including residential. Thus, following the conformity guidelines, demand for an additional 1,404 dwelling units is generated by the increase in job growth, due to the proposed General Plan, which would be unmet by the General Plan.

As an alternative to assessing the availability of additional housing to accommodate the jobs generated by the proposed General Plan, SCAG has identified an alternative method to evaluate the project's conformity with the AQMP, contribution to the attainment of the subregional VMT target. According to the formula developed by SCAG, the VMT reduction target for the proposed General Plan should be 40,920 miles. With an average trip length of 8.54 miles (as defined for Orange County in the SCAQMD CEQA Handbook), this VMT reduction target equates to 4,792 trips per day or a reduction of approximately two percent. Achievement of this VMT reduction target would be assisted through the intensification of existing commercial, office and industrial land uses that provide opportunities to facilitate and promote the use of alternative modes of transportation.

Land use changes in the future will primarily include the intensification of existing commercial, office and industrial uses; redefinition of appropriate land uses within small commercial centers; and implementation of transit oriented projects. Areas targeted for intensification include the Urban Village Area and the North Laguna Hills Mixed Use/Business Park. The Urban Village Areas encompasses the Laguna Hills Mall and surrounding lands, including the existing OCTD operated Park and Ride. In order to solidify the commercial and community focus of Laguna Hills, it is the City's intent to pursue establishment of an urban village, which encourages land uses within and surrounding the mall to be intensified with additional retail and professional office uses. Existing and future uses within the urban village would be connected to each other with enhanced pedestrian links and plazas. The urban village would become a community focal point, including such facilities as a community theater, urban plazas and gathering places, library and art center. In addition, the urban village could potentially house a civic center. As identified in the proposed General Plan, a Specific Design Plan that identifies proposed pedestrian linkages will be developed in the future for the Urban Village area. Through intensification of the existing commercial uses and facilitation of pedestrian access as an alternative to vehicular circulation, the urban village concept would potentially reduce the number of daily trips, primarily non-work trips, generated within the City.

The North Laguna Hills Mixed Use/Business Park is located within the City's current sphere of influence, and is currently developed as a low intensity business park; it is proposed to transition into a medium intensity mixed use area under the proposed General Plan. It is expected that increases in

the overall intensity, along with an increase in allowable uses identified in the proposed General Plan, will act as an incentive and thus spur a transition from industrially oriented business park to a more office oriented mixed use development. This type of development results in greater employment in this area and provides a larger pool of potential users for alternative travel modes, such as mass transit, carpooling, vanpooling, bicycling and walking, than would be available from the employment base associated with existing land uses. Also, development of a more office/commercial based development would potentially reduce or eliminate work and non-work trips originating in the residential communities adjacent to the North Laguna Hills area, which would otherwise travel to other parts of the City.

Through the concentration of future development within existing commercial, office and industrial areas, the City proposes a land use plan within the City that promotes higher density urban cores to provide employment potential for residents, opportunities for provision of pedestrian and transit facilities, and a reduction of the VMT and vehicle trips generated within the City. Due to the limited potential for new development and the substantial amount of new development constructed within the last 10 to 15 years, dramatic changes in land use patterns within the City of Laguna Hills cannot be accomplished either through development or redevelopment. Thus, a land use plan has been developed that intensifies existing urban cores, provides opportunities to reduce or eliminate VMT and trips, increases employment opportunities, and facilitates the future economic viability of the City. Implementation of this land use plan will have a positive effect on reducing vehicle trips and vehicle miles travelled that originate within the City and would meet the requirements of Criterion One.

Criterion Two

In order to reduce vehicle trips and vehicle miles traveled to the greatest extent feasible, both SCAG and SCAQMD have developed transportation demand management (TDM) strategies. The following is an overview of some of the TDM strategies described in the AQMP and Exhibit D to SCAG's Conformity Review Procedures Related to Growth Management:

1. Encourage the use of alternate transportation modes by promoting public transit usage, and by providing secure bicycle facilities and preferential parking rates or locations for ride pools. Provide incentives for working and living within the local area.
2. Provide mass transit accommodations, such as bus turnout lanes, park and ride areas, and bus shelters. Provide minibuses for use by individuals working in these buildings. Ride pools should be encouraged.
3. Provide sufficient service establishments, such as restaurants, copy centers, etc., within the office areas to minimize the number and

length of trips to obtain these common services. Provide child care facilities at or near the work site.

4. Establish a Transportation Management Organization (TMO). This will include an employee transportation coordinator. Ride pool data should be made available to those working in the buildings.
5. Encourage formation of vanpools with company vehicles or subsidies, and encourage public transit with free transit passes. Work with public transit purveyors to expand scheduled bus service and implement long-term public transportation projects. Evaluate the potential for subscription bus service for areas where there are large concentrations of employees.

Through implementation of General Plan Environmental Resources Strategies B.1, B.2, B.3, B.4, B.5, B.7 and B.9, Municipal Facilities and Services Strategies A.8 and A.9, and the TDM performance standards outlined in the air quality section of the General Plan Implementation and Monitoring Program will reduce vehicle trips and VMT, generated within the City of Laguna Hills, to the greatest extent feasible.

Criterion Three

In order to comply with Criterion No. 3, the EIR needs to demonstrate that the project: 1) will not have a negative impact on air quality in the long term; 2) has included the transportation, land use and energy conservation measures presented in Appendix IV-E of the 1991 AQMP to the extent possible; and 3) has been analyzed, in terms of air quality, on a local and regional level.

1) No Significant Negative Impact on Air Quality in the Long Term

SCAG's conformity review procedures indicate that a project will not have a significant negative impact on air quality in the long term (five years or longer) if the project is 1) helping to implement the regional growth management policy through a reduction in VMT or improved jobs/housing balance, and 2) helping to reduce VMT/VT through the application of transportation demand management strategies to the project.

As described above in analysis of the project's compliance with Criterion No. 1, due to the limited potential for new development and the substantial amount of new development constructed within the last 10 to 15 years, dramatic changes in land use patterns within the City of Laguna Hills cannot be accomplished either through development or redevelopment. Thus, a land use plan has been developed that intensifies existing urban cores, provides opportunities to reduce or eliminate VMT and trips, increases employment opportunities, and facilitates the future economic viability of the City.

Implementation of this land use plan will have a positive long-term effect on reducing vehicle trips and vehicle miles travelled that originate within the City.

As described above in the analysis of the project's compliance with Criterion No. 2, the City is helping reduce VMT/VT through implementation of General Plan Environmental Resources Strategies B.1, B.2, B.3, B.4, B.5, B.7, B.9 and Municipal Facilities and Services Strategies A.8 and A.9 and General Plan Implementation and Monitoring Program performance standards related to air quality.

2) Mitigation of Air Quality Impacts to the Extent Feasible

The second component in satisfying Criterion No. 3 requires that the project mitigate impacts on air quality "to the maximum extent feasible" through the use of transportation, land use and energy conservation control measures.

Implementation of General Plan Environmental Resources Strategies B.1 through B.13, Municipal Facilities and Services Strategies A.8 and A.9 and General Plan Implementation and Monitoring Program performance standards related to air quality would reduce potential emissions of air pollutants to the greatest extent feasible.

3) Analysis of Air Quality Impacts

The third component in Criterion No. 3 requires that the impact of the project on air quality be analyzed on a local (city or subregional) and regional level.

Air quality modeling has been completed on both a local and regional basis using the data and modeling protocol indicated by SCAQMD, CARB, and the 1991 AQMP. Assuming growth projected in the Southeast Orange subregions as indicated in the Growth Management Plan, timely implementation of the 1991 AQMP emission control measures and CARB mandated Phase II reformulated and oxygenated fuels, background carbon monoxide concentrations within the vicinity of the project site would not exceed federal or State one hour and eight hour CO standards at full project build out. At build out, project related CO emissions, when added to future cumulative background CO levels, would not cause, or substantially contribute to, a new violation of the applicable emissions standards.

CUMULATIVE IMPACTS

Implementation of the proposed General Plan would result in increasing the number of vehicle miles travelled within the South Coast Air Basin, which is a non-attainment area and currently experiences degraded air quality. As

illustrated in Table B, projected increases in vehicle trips and vehicle miles travelled would result in substantial emissions of reactive organic compounds, nitrogen oxides and carbon monoxide. Implementation of the strategies and performance strategies outlined in the proposed General Plan would reduce the concentrations of each of these pollutants; however, remaining emissions of these air pollutants are expected to contribute to degraded quality of the ambient air conditions and result in significant cumulative *regional* air quality impacts.

The General Plan's effect on local air quality was analyzed and is summarized in Table C. The concentrations outlined in the Table are based on cumulative traffic volumes modelled as part of the traffic/circulation analysis. These volumes include existing traffic and projected volumes associated with build out of the General Plan and growth in neighboring jurisdictions. As illustrated in Table D, none of the receptors modelled would experience carbon monoxide levels that exceed the federal or State standards with build out of the General Plan (post-2010). Thus, no cumulative *local* air quality impacts would result with implementation of the proposed General Plan.

MITIGATION MEASURES

Please refer to General Plan Strategies B.1 through B.13 and the General Plan Implementation and Monitoring Program performance standards related to air quality.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Implementation of the proposed General Plan would result in substantial emissions of reactive organic compounds, nitrogen oxides and carbon monoxide, and would result in significant unavoidable adverse project and cumulative air quality impacts.

Regional Emissions Calculations

(Ref: Table A9-5, CEQA Air Quality Handbook, April 1993)

Project: Laguna Hills General Plan

Scenario: Existing

Inputs:	Vehicle Type	
	Autos	Trucks
D	224382	5942
F	1	1
Y	1	1
G	6.97	6.97
H	0.07	0.44
I	0.00016	0.0017
N	0.01	0.47
O	0.1	0.19
J	5.35	14.31
K	0.69	5.48
W	0.3	0.3
L1	89.18	46.17
M1	2.69	2.02
Z	0.2	0.2
L2	12.17	4.42
M2	1.48	0.95
R	0.42	1.29
S1	4.72	2.76
S2	1.11	0.72
T	1.31	0.9
U	1	1
V	3.22	3.64

Where:

E = Regional project emissions

D = Project size

F = Trip rate

Y = 1 (for daily impacts)

G = Trip length

H = SO_x emission factor

I = Pb emission factor

N = PM₁₀ running exhaust emission factor

O = PM₁₀ running tire-wear factor

J = CO running exhaust emission factor

K = CO running exhaust emission factor

W = percent cold starts

L1 = CO cold start emission factor

M1 = NO_x cold start emission factor

Z = percent hot starts

L2 = CO hot start emission factor

M2 = NO_x hot start emission factor

R = ROC running exhaust emission factor

S1 = ROC cold start emission factor

S2 = ROC hot start emission factor

T = ROC hot soak emission factor

U = Number of trips per car per day

V = ROC diurnal evaporative emission factor

Regional Emissions Calculations

(Ref: Table A9-5, CEQA Air Quality Handbook, April 1993)

Project: Laguna Hills General Plan

Scenario: Existing

$$E = \{(D \cdot F \cdot Y \cdot G) \cdot (H \text{ or } D)\} / 454 \text{ for SOx \& Pb}$$

$$E = \{[(D \cdot F \cdot Y \cdot G) \cdot (N)] + [(D \cdot F \cdot Y \cdot G) \cdot (O)]\} / 454 \text{ for PM10}$$

$$E = \{[(D \cdot F \cdot Y \cdot G) \cdot (J \text{ or } K)] + [(D \cdot F \cdot Y \cdot W) \cdot (L1 \text{ or } M1)] + [(D \cdot F \cdot Y \cdot Z) \cdot (L2 \text{ or } M2)]\} / 454 \text{ for CO and NOx}$$

$$E = \{[(D \cdot F \cdot Y \cdot G \cdot R)] + [D \cdot F \cdot Y \cdot W \cdot S1] + [D \cdot F \cdot Y \cdot Z \cdot S2] + [D \cdot F \cdot Y \cdot T] + \{[(D \cdot F \cdot Y) / (U)] \cdot V\}\} / 454 \text{ for ROC}$$

Emissions by vehicle type and total emissions

SOx

Autos	Trucks	Total
241.14	40.14	281.28

Pb

Autos	Trucks	Total
0.55	0.16	0.71

PM10

Autos	Trucks	Total
378.93	60.21	439.14

CO

Autos	Trucks	Total
32855.41	1498.27	34353.68

NOx

Autos	Trucks	Total
2922.06	510.33	3432.38

ROC

Autos	Trucks	Total
4495.25	189.82	4685.07

Summary: Regional Project Emissions (lbs/day)					
	CO	ROC	NOx	SOx	PM10
Project Emissions	34,353.7	4,685.1	3,432.4	281.3	439.1
SCAQMD Significance Threshold Criteria	550.0	55.0	55.0	150.0	150.0

Regional Emissions Calculations

(Ref: Table A9-5, CEQA Air Quality Handbook, April 1993)

Project: Laguna Hills General Plan

Scenario: Post-2010, without General Plan Alternative

Inputs:	Vehicle Type	
	Autos	Trucks
D	224382	5942
F	1	1
Y	1	1
G	8.54	8.54
H	0.05	0.28
I	0	0
N	0.005	0.17
O	0.1	0.185
J	1.56	5.01
K	0.22	3.87
W	0.3	0.3
L1	47.53	24.44
M1	1.28	1.94
Z	0.2	0.2
L2	3.71	2.73
M2	0.57	0.9
R	0.06	0.67
S1	1.3	1.28
S2	0.22	0.31
T	0.29	0.33
U	1	1
V	0.53	1.18

Where:

E = Regional project emissions

D = Project size

F = Trip rate

Y = 1 (for daily impacts)

G = Trip length

H = SOx emission factor

I = Pb emission factor

N = PM10 running exhaust emission factor

O = PM10 running tire-wear factor

J = CO running exhaust emission factor

K = CO running exhaust emission factor

W = percent cold starts

L1 = CO cold start emission factor

M1 = NOx cold start emission factor

Z = percent hot starts

L2 = CO hot start emission factor

M2 = NOx hot start emission factor

R = ROC running exhaust emission factor

S1 = ROC cold start emission factor

S2 = ROC hot start emission factor

T = ROC hot soak emission factor

U = Number of trips per car per day

V = ROC diurnal evaporative emission factor

Regional Emissions Calculations

(Ref: Table A9-5, CEQA Air Quality Handbook, April 1993)

Project: Laguna Hills General Plan

Scenario: Post-2010, without General Plan Alternative

$E = [(D \cdot F \cdot Y \cdot G) \cdot (H \text{ or } I)] / 454$ for SO_x & Pb

$E = \{[(D \cdot F \cdot Y \cdot G) \cdot (N)] + [(D \cdot F \cdot Y \cdot G) \cdot (O)]\} / 454$ for PM₁₀

$E = \{[(D \cdot F \cdot Y \cdot G) \cdot (J \text{ or } K)] + [(D \cdot F \cdot Y \cdot W) \cdot (L1 \text{ or } M1)] + [(D \cdot F \cdot Y \cdot Z) \cdot (L2 \text{ or } M2)]\} / 454$ for CO and NO_x

$E = \{[D \cdot F \cdot Y \cdot G \cdot R] + [D \cdot F \cdot Y \cdot W \cdot S1] + [D \cdot F \cdot Y \cdot Z \cdot S2] + [D \cdot F \cdot Y \cdot T] + \{[(D \cdot F \cdot Y) / (U)] \cdot V\}\} / 454$ for ROC

Emissions by vehicle type and total emissions

SO_x

Autos	Trucks	Total
211.04	31.30	242.33

Pb

Autos	Trucks	Total
0.00	0.00	0.00

PM₁₀

Autos	Trucks	Total
443.18	39.68	482.86

CO

Autos	Trucks	Total
13998.37	663.09	14661.46

NO_x

Autos	Trucks	Total
1174.69	442.53	1617.23

ROC

Autos	Trucks	Total
873.01	100.49	973.50

Summary: Regional Project Emissions (lbs/day)

	CO	ROC	NO _x	SO _x	PM ₁₀
Project Emissions	14,661.5	973.5	1,617.2	242.3	482.9
SCAQMD Significance Threshold Criteria	550.0	55.0	55.0	150.0	150.0

Input to Compute Emissions from Electricity Usage and Natural Gas Consumption

Project: Laguna Hills General Plan

Scenario: Existing

For Electricity Usage Emissions:

$$E = ((F \cdot G) / 365) / 1000 \cdot H$$

Where,

E = Emissions of criteria pollutants in pounds per day due to electricity consumption.

F = Gross square footage of each type of land use except for residential uses; number of units for residential land uses.

G = Electricity usage rate to determine annual usage (Table A9-11-A).

H = Emission factors in pounds per megawatt-hours (Table A9-11-B).

For Natural Gas Consumption Emissions:

$$E = ((F \cdot G) / 30) / 1000000 \cdot H$$

Where,

E = Emissions of criteria pollutants in pounds per day due to natural gas consumption.

F = Gross square footage of each type of land use except for residential uses; number of units for residential land uses.

G = Natural Gas usage rate to determine daily usage (Table A9-12-A).

H = Emission factors in pounds per million cubic feet (Table A9-12-B).

	Electricity	Natural Gas
Inputs:		
F	1	1
G	237250000	~6344780
H(CO)	0.2	20
H(ROC)	0.01	5.3
H(NO _x)	1.15	80/120 (resi/c)
H(SO _x)	0.12	Negl.
H(PM10)	0.04	0.2

Emissions from Electricity Usage and Natural Gas Consumption
(Ref: CEQA Handbook, pg. A9-114, A9-117)

CO

Electricity	Natural Gas	Total
130.0	50.9	180.9

ROC

Electricity	Natural Gas	Total
6.5	13.5	20.0

NOx

Electricity	Natural Gas	Total
747.5	240.2	987.7

SOx

Electricity	Natural Gas	Total
78.0	Negl.	78.0

PM10

Electricity	Natural Gas	Total
26.0	0.5	26.5

Input to Compute Emissions from Electricity Usage and Natural Gas Consumption

Project: Laguna Hills General Plan

Scenario: Future with General Plan Alternative

For Electricity Usage Emissions:

$$E = ((F \cdot G) / 365) / 1000 \cdot H$$

Where:

E = Emissions of criteria pollutants in pounds per day due to electricity consumption.

F = Gross square footage of each type of land use except for residential uses; number of units for residential land uses.

G = Electricity usage rate to determine annual usage (Table A9-11-A).

H = Emission factors in pounds per megawatt-hours (Table A9-11-B).

For Natural Gas Consumption Emissions:

$$E = ((F \cdot G) / 30) / 1000000 \cdot H$$

Where:

E = Emissions of criteria pollutants in pounds per day due to natural gas consumption.

F = Gross square footage of each type of land use except for residential uses; number of units for residential land uses.

G = Natural Gas usage rate to determine daily usage (Table A9-12-A).

H = Emission factors in pounds per million cubic feet (Table A9-12-B).

	Electricity	Natural Gas
Inputs:		
F	1	1
G	243964175	~8564900
H(CO)	0.2	20
H(ROC)	0.01	5.3
H(NO _x)	1.15	80/120 (resi/c)
H(SO _x)	0.12	Negl.
H(PM10)	0.04	0.2

Emissions from Electricity Usage and Natural Gas Consumption
(Ref: CEQA Handbook, pg. A9-114, A9-117)

CO

Electricity	Natural Gas	Total
133.7	52.4	186.1

ROC

Electricity	Natural Gas	Total
6.7	13.9	20.6

NO_x

Electricity	Natural Gas	Total
768.7	247.2	1015.9

SO_x

Electricity	Natural Gas	Total
80.2	Negl.	80.2

PM₁₀

Electricity	Natural Gas	Total
26.7	0.5	27.3

C. NOISE ANALYSIS

**LAGUNA HILLS NOISE DATA FOR
EXISTING AND PREFERRED GENERAL PLAN**

January 28, 1994

Prepared for:

*The City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, California 92653
(714) 707-2600*

Prepared by:

*LSA Associates, Inc.
1 Park Plaza, Suite 500
Irvine, California 92714
(714) 553-0666
LSA Project #TPN202*

LAGUNA HILLS NOISE DATA FOR EXISTING AND PREFERRED GENERAL PLAN

INTRODUCTION

The following noise data are provided as background information, supplementing the existing noise information contained in the Laguna Hills Community Profile, the Laguna Hills General Plan, and the attached Environmental Impact Report. Existing noise conditions within the City, along with documentation regarding existing CNEL data for all major roadways, are provided in the Laguna Hills Community Profile report (Table VI-3). The Laguna Hills General Plan includes a discussion of the strategies and policies related to the regulation and control of noise within the City. The Laguna Hills General Plan EIR addresses the potential environmental impacts associated with the implementation of the General Plan, including documentation regarding future noise levels within the City (Table IV-W-1) and their potential impacts.

NOISE MODEL DATA BACKGROUND

The following data sheets constitute the back-up data used in Table VI-3 of the Community Profile and Table IV-W-1 of the Environmental Impact Report for the Laguna Hills General Plan Program. Each data sheet contains both the input and output of the noise model program for a given roadway segment and scenario. The program (which uses a spreadsheet run on a personal computer) uses the equations of the Federal Highway Administration (FHWA) noise model to determine the Community Noise Equivalent Level (CNEL) at a given distance, and the distance to a given CNEL contour. Inputs to the FHWA noise model consist of the traffic mix, the average daily traffic (ADT), and the average vehicle speed. Each of these inputs is discussed in further detail below. The inputs appear in the top third of the noise data sheets.

The traffic mix used for the project was the standard default traffic mix percentages for the County of Orange (ref: OCEMA Memo # 9030214282625, March 6, 1989), broken down by time of day and vehicle type. For this project, two roadway types were analyzed: arterials and freeways. The roadway type used for a particular data sheet appears in the row designated "IN USE." Below the "IN USE" row are four rows (labeled "ART," "FWY," "TR. CORRIDOR," and "BY INPUT," respectively), which are not operated on by the program, but rather serve as a storage area for traffic mix information. When the operator wishes to change roadway types, he need only copy the information into the "IN USE" row, rather than typing it in. The "BY INPUT" row is a storage area for project specific traffic mix data that may be used when the need arises.

ADT was obtained from data contained in the Circulation Study. Average vehicle speed, in miles per hour, was determined through consultation with LSA transportation staff and from knowledge of the posted speed limits.

Using the data in the input section, the data sheet computes and displays the reference noise levels at 50 feet for autos, medium trucks and heavy trucks, in terms of Leq and CNEL. These values are used by the program to compute the subsequent data for varying distances and CNELs. The data are computed for both hard site conditions and soft site conditions. The distinction between these two conditions is in the type of terrain between the noise source and receiver. Soft site conditions exist when the terrain is highly absorptive (i.e., large amounts of dense foliage). As can be seen by comparing a set of hard site data with the corresponding soft site data, soft site conditions result in a lower noise level at a given distance than hard site conditions. In typical urban and suburban sites, the hard site condition is most prevalent.

NOISE DATA FOR EXISTING GENERAL PLAN

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Interstate 5 - El Toro Rd. \Alicia Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	242000							
Enter	MPH=	55							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		72.73	79.85	83.81					
		-----	-LEQ'S	at 50 FT	---				
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		40.05	47.18	51.14					
	DAY	81.28	74.88	77.41	83.43				
	EVE	81.67	69.26	73.83	82.54				
	NIGHT	74.12	68.47	74.19	77.71				
	CNEL	83.47	76.54	81.32	86.05				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	86.05	83.04	80.03	78.27	77.02	76.05	75.26	73.04

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	40160	20128	6513	6365	6220	4016	2013	636

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	84.85	80.33	75.82	73.18	71.30	69.85	68.66	65.33

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	3594	2267	1069	1052	1036	774	488	227

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Interstate 5 - Alicia Pkwy. \La Paz Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 225000

Enter MPH= 55

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
2.00	79.85	83.81

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 40.05 47.18 51.14

DAY	80.97	74.56	77.09	83.11
EVE	81.35	68.94	73.51	82.22
NIGHT	73.80	68.15	73.87	77.40

CNEL	83.15	76.22	81.00	85.73
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600 1000
CNEL=	85.73	82.72	79.71	77.95	76.70	75.73	74.94 72.72

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0 75.0
Dist. =	37339	18714	6056	5918	5783	3734	1871 592

SOFT SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600 1000
CNEL=	84.53	80.02	75.50	72.86	70.99	69.53	68.34 65.02

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0 75.0
Dist. =	3423	2160	1018	1003	987	738	465 216

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Interstate 5 - La Paz Rd. \Oso Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 216000

Enter MPH= 55

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
72.73	79.85	83.81

---	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 40.05 47.18 51.14

DAY 80.79 74.39 76.92 82.93

EVE 81.17 68.76 73.33 82.04

NIGHT 73.63 67.97 73.69 77.22

CNEL 82.97 76.04 80.82 85.55

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600 1000
CNEL=	85.55	82.54	79.53	77.77	76.52	75.55	74.76 72.54

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 35845 17965 5813 5681 5552 3585 1797 568

SOFT SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600 1000
CNEL=	84.35	79.84	75.32	72.68	70.81	69.35	68.17 64.84

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 3331 2102 991 976 961 718 453 210

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: El Toro Rd. - Ave. de Carlota\Paseo de Valencia

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 27800

Enter MPH= 35

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
65.11	74.83	80.05

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T.
		TOTAL

Ref. Level (N=1) 34.40 44.12 49.34

DAY 66.83 59.70 61.05 68.46

EVE 65.06 53.33 52.01 65.54

NIGHT 59.00 51.80 53.26 60.64

CNEL 68.23 60.49 61.74 69.67

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 69.67 66.66 63.65 61.89 60.64 59.67 58.88 56.66

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 925 463 150 147 143 92 46 15

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 68.47 63.96 59.44 56.80 54.92 53.47 52.28 48.96

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 291 184 86 85 84 63 40 18

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Los Alisos Blvd. - Ave. de Carlota\Paseo de Valencia

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 19800

Enter MPH= 40

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
67.36	76.31	81.16

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T.
		TOTAL

Ref. Level (N=1) 36.07 45.02 49.87

DAY 67.02 59.13 60.11 68.38

EVE 65.26 52.76 51.07 65.65

NIGHT 59.20 51.23 52.32 60.55

CNEL 68.43 59.92 60.80 69.61

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 69.61 66.60 63.59 61.83 60.58 59.61 58.82 56.60

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 913 457 148 145 141 91 46 14

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 68.41 63.90 59.38 56.74 54.87 53.41 52.23 48.90

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 288 182 86 84 83 62 39 18

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Los Alisos Blvd - Paseo de Valencia I-5

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS--	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	25900			
Enter	MPH=	40			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	67.36	76.31	81.16		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	36.07	45.02	49.87		
	DAY	68.19	60.29	61.27	69.54
	EVE	66.42	53.93	52.24	66.82
	NIGHT	60.36	52.40	53.49	61.72
	CNEL	69.59	61.09	61.97	70.78

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	70.78	67.77	64.76	63.00	61.75	60.78	59.99

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	1194	598	194	189	185	119	60

SOFT SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	69.58	65.06	60.55	57.91	56.03	54.58	53.39

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	345	218	103	101	99	74	47

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - West of Moulton Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED. TR	MED. TR	MED. TR	HVY. TR	HVY. TR	HVY. TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 15900

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

---	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 67.54 58.97 59.62 68.69

EVE 65.78 52.61 50.59 66.11

NIGHT 59.72 51.08 51.84 60.86

CNEL 68.95 59.77 60.32 69.95

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL = 69.95 66.93 63.92 62.16 60.91 59.95 59.15 56.93

CNEL = 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 985 494 160 156 153 99 49 16

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL = 68.75 64.23 59.71 57.07 55.20 53.75 52.56 49.23

CNEL = 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 303 191 90 89 87 65 41 19

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Moulton Pkwy. \Aliso Hills Dr.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	-----	MED.TR	-----	-----	HVY.TR	-----
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 26100

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

-----	-LEQ'S	at 50 FT	-----
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	69.70	61.13	61.78	70.84
EVE	67.93	54.76	52.75	68.26
NIGHT	61.87	53.23	53.99	63.01

CNEL	71.10	61.92	62.47	72.10
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.10	69.09	66.08	64.32	63.07	62.10	61.31	59.09

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1617	810	262	256	250	162	81	26

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.90	66.38	61.87	59.23	57.35	55.90	54.71	51.38

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	422	266	126	124	122	91	57	27

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Aliso Hills Dr. \Paseo de Valencia

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	28100			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	70.02	61.45	62.10	71.16
	EVE.	68.25	55.08	53.07	68.58
	NIGHT	62.19	53.55	54.32	63.33
	CNEL	71.42	62.24	62.79	72.42

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.42	69.41	66.40	64.64	63.39	62.42	61.63	59.41

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1741	873	282	276	270	174	87	28

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.22	66.70	62.19	59.55	57.67	56.22	55.03	51.70

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	443	280	132	130	128	96	60	28

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Paseo de Valencia\Costeau Dr.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 31100

Enter MPH= 45

Ref. Emission

Levels at 50 ft	AUTOS	M.T.	H.T.
	69.34	77.62	82.14

---	-LEQ'S	at 50 FT ---
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 70.46 61.89 62.54 71.60

EVE 68.69 55.52 53.51 69.02

NIGHT 62.63 53.99 54.76 63.77

CNEL 71.86 62.68 63.24 72.86

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.86	69.85	66.84	65.08	63.83	62.86	62.07	59.85

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1927	966	313	305	298	193	97	31

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.66	67.14	62.63	59.99	58.11	56.66	55.47	52.14

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	474	299	141	139	137	102	65	30

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Costeau Dr. I-5

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	46100			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	—	—LEQ'S	at 50 FT	—	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	72.17	63.60	64.25	73.31
	EVE	70.40	57.23	55.22	70.73
	NIGHT	64.34	55.70	56.47	65.48
	CNEL	73.57	64.39	64.94	74.57

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	74.57	71.56	68.55	66.79	65.54	64.57	63.78	61.56

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2856	1432	463	453	442	286	143	45

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.37	68.85	64.34	61.70	59.82	58.37	57.18	53.85

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	617	389	183	181	178	133	84	39

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - West of Moulton Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 18900

Enter MPH= 45

Ref. Emission

Levels at 50 ft	AUTOS	M.T.	H.T.
	69.34	77.62	82.14

—	—LEQ'S	at 50 FT	—
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	68.30	59.72	60.37	69.44
EVE	66.53	53.36	51.34	66.86
NIGHT	60.47	51.83	52.59	61.61

CNEL	69.70	60.52	61.07	70.70
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.70	67.69	64.68	62.91	61.67	60.70	59.90	57.69

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1171	587	190	186	181	117	59	19

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.50	64.98	60.47	57.82	55.95	54.50	53.31	49.98

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	340	215	101	100	98	73	46	21

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - Moulton Pkwy.\Alameda Ave.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS--	-----	---	MED.TR	---	-----	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	17800			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	68.03	59.46	60.11	69.18
	EVE	66.27	53.10	51.08	66.60
	NIGHT	60.21	51.57	52.33	61.35
	CNEL	69.44	60.26	60.81	70.44

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	70.44	67.43	64.41	62.65	61.40	60.44	59.64

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	1103	553	179	175	171	110	55

SOFT SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	69.24	64.72	60.20	57.56	55.69	54.24	53.05

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	327	206	97	96	94	70	44

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - Alameda Ave. \ Aliso Hills Dr.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	-----	MED.TR	-----	-----	HVY.TR	-----
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	18300						
Enter	MPH=	45						
Ref. Emission								
Levels at 50 ft		AUTOS	M.T.	H.T.				
		69.34	77.62	82.14				
		-----	-LEQ'S	at 50 FT	---			
		AUTOS	M.T.	H.T.	TOTAL			
Ref. Level (N=1)		37.54	45.82	50.34				
	DAY	68.16	59.58	60.23	69.30			
	EVE	66.39	53.22	51.20	66.72			
	NIGHT	60.33	51.69	52.45	61.47			
	CNEL	69.56	60.38	60.93	70.56			

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.56	67.55	64.54	62.77	61.52	60.56	59.76	57.55

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1134	568	184	180	176	113	57	18

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.36	64.84	60.32	57.68	55.81	54.36	53.17	49.84

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	333	210	99	98	96	72	45	21

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - Aliso Hills Dr.\Paseo de Valencia

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS			MED.TR			HVY.TR		
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	19400			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	—	—LEQ'S	at 50 FT —		
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	68.41	59.84	60.49	69.55
	EVE	66.64	53.47	51.46	66.97
	NIGHT	60.58	51.94	52.71	61.72
	CNEL	69.81	60.63	61.19	70.81

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.81	67.80	64.79	63.03	61.78	60.81	60.02	57.80

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1202	602	195	191	186	120	60	19

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.61	65.09	60.58	57.94	56.06	54.61	53.42	50.09

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	346	219	103	101	100	75	47	22

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - Paseo de Valencia\Cabot Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 19700
 Enter MPH= 45

Ref. Emission

Levels at 50 ft
 AUTOS M.T. H.T.
 69.34 77.62 82.14

--- -LEQ'S at 50 FT ---
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 68.48 59.90 60.55 69.62
 EVE 66.71 53.54 51.52 67.04
 NIGHT 60.65 52.01 52.77 61.79

CNEL 69.88 60.70 61.25 70.88

LEVEL GROUND ONLY

HARD SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.88	67.87	64.86	63.09	61.85	60.88	60.08	57.87

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1221	612	198	193	189	122	61	19

SOFT SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.68	65.16	60.65	58.00	56.13	54.68	53.49	50.16

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	350	221	104	102	101	75	48	22

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Oso Pkwy. - West of Moulton Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	-----	MED.TR	-----	-----	HVY.TR	-----
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 10700

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

-----	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	65.82	57.25	57.90	66.97
EVE.	64.06	50.89	48.87	64.39
NIGHT	58.00	49.36	50.12	59.14

CNEL	67.23	58.05	58.60	68.23
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	68.23	65.21	62.20	60.44	59.19	58.23	57.43	55.21

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	663	332	108	105	103	66	33	11

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	67.03	62.51	57.99	55.35	53.48	52.03	50.84	47.51

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	233	147	69	68	67	50	32	15

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Oso Pkwy. - Moulton Pkwy.\Nellie Gail Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	15400							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	69.34	77.62	82.14						
		-LEQ'S	at 50 FT						
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	37.54	45.82	50.34						
	DAY	67.41	58.83	59.48	68.55				
	EVE	65.64	52.47	50.45	65.97				
	NIGHT	59.58	50.94	51.70	60.72				
	CNEL	68.81	59.63	60.18	69.81				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.81	66.80	63.79	62.03	60.78	59.81	59.01	56.80

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	954	478	155	151	148	95	48	15

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	68.61	64.09	59.58	56.93	55.06	53.61	52.42	49.09

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	297	187	88	87	86	64	40	19

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Oso Pkwy. - Nellie Gail Rd. I-5

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	-----	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	17800			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	-----	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	68.03	59.46	60.11	69.18
	EVE	66.27	53.10	51.08	66.60
	NIGHT	60.21	51.57	52.33	61.35
	CNEL	69.44	60.26	60.81	70.44

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.44	67.43	64.41	62.65	61.40	60.44	59.64	57.43

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1103	553	179	175	171	110	55	17

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.24	64.72	60.20	57.56	55.69	54.24	53.05	49.72

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	327	206	97	96	94	70	44	21

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Nellie Gail Rd. - Moulton Pkwy\Hidden Trail Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 1200

Enter MPH= 25

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
59.44	71.09	77.24

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 30.19 41.84 47.99

DAY 48.97 43.77 46.05 51.55

EVE 47.20 37.40 37.02 48.00

NIGHT 41.14 35.87 38.27 43.73

CNEL 50.37 44.56 46.75 52.67

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	52.67	49.66	46.65	44.89	43.64	42.67	41.88	39.66

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	18	9	3	3	3	2	1	0

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	51.47	46.95	42.44	39.80	37.92	36.47	35.28	31.95

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	21	13	6	6	6	5	3	1

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Nellie Gail Rd. - Hidden Trail Rd./Oso Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	2600							
Enter	MPH=	25							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	59.44	71.09	77.24						
	---	-LEQ'S	at 50 FT	---					
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	30.19	41.84	47.99						
	DAY	52.33	47.13	49.41	54.91				
	EVE	50.56	40.76	40.38	51.36				
	NIGHT	44.50	39.23	41.63	47.09				
	CNEL	53.73	47.92	50.11	56.03				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	56.03	53.02	50.01	48.25	47.00	46.03	45.24	43.02

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	40	20	6	6	6	4	2	1

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	54.83	50.31	45.80	43.16	41.28	39.83	38.64	35.31

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	36	23	11	10	10	8	5	2

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Nellie Gail Rd. - Oso Pkwy./Cabot Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	1500						
Enter	MPH=	25						
Ref. Emission								
Levels at 50 ft	AUTOS	M.T.	H.T.					
	59.44	71.09	77.24					
	—	—LEQ'S	at 50 FT —					
	AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)	30.19	41.84	47.99					
	DAY	49.94	44.74	47.02	52.52			
	EVE.	48.17	38.37	37.99	48.97			
	NIGHT	42.11	36.84	39.24	44.70			
	CNEL	51.34	45.53	47.72	53.64			

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	53.64	50.63	47.62	45.86	44.61	43.64	42.85	40.63

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	23	12	4	4	4	2	1	0

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	52.44	47.92	43.41	40.77	38.89	37.44	36.25	32.92

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	25	16	7	7	7	5	3	2

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

RDWY: Hidden Trail Rd (Greenfield) - Nellie Gail Rd/Rapid Falls Rd

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	1300							
Enter	MPH=	25							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	59.44	71.09	77.24						
	—	—LEQ'S	at 50 FT —						
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	30.19	41.84	47.99						
	DAY	49.32	44.12	46.40	51.90				
	EVE	47.55	37.75	37.37	48.35				
	NIGHT	41.49	36.22	38.62	44.08				
	CNEL	50.72	44.91	47.10	53.02				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	53.02	50.01	47.00	45.24	43.99	43.02	42.23	40.01

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	20	10	3	3	3	2	1	0

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	51.82	47.30	42.79	40.15	38.27	36.82	35.63	32.30

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	23	14	7	7	7	5	3	1

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

RDWY: Hidden Trail Rd (Greenfield) - Rapid Falls Rd/City Limits

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 3100

Enter MPH= 25

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
59.44	71.09	77.24

---	-LEQ'S	at 50 FT ---
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 30.19 41.84 47.99

DAY 53.09 47.89 50.17 55.68

EVE 51.33 41.52 41.14 52.12

NIGHT 45.27 40.00 42.39 47.85

CNEL 54.50 48.68 50.87 56.79

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 56.79 53.78 50.77 49.01 47.76 46.79 46.00 43.78

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 48 24 8 8 7 5 2 1

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 55.59 51.08 46.56 43.92 42.05 40.59 39.40 36.08

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 40 25 12 12 12 9 5 3

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Rapid Falls Rd. - Hidden Trail Rd./Cabot Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	2700							
Enter	MPH=	25							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		59.44	71.09	77.24					
		---	-LEQ'S	at 50 FT	---				
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		30.19	41.84	47.99					
	DAY	52.49	47.29	49.57	55.08				
	EVE	50.73	40.92	40.54	51.52				
	NIGHT	44.67	39.40	41.79	47.25				
	CNEL	53.90	48.08	50.27	56.19				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	56.19	53.18	50.17	48.41	47.16	46.19	45.40	43.18

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	42	21	7	7	6	4	2	1

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	54.99	50.48	45.96	43.32	41.45	39.99	38.80	35.48

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	37	23	11	11	11	8	5	2

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - North of Alicia Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	29100						
Enter	MPH=	45						
Ref. Emission								
Levels at 50 ft		AUTOS	M.T.	H.T.				
		69.34	77.62	82.14				
		—	—LEQ'S	at 50 FT —				
		AUTOS	M.T.	H.T.	TOTAL			
Ref. Level (N=1)		37.54	45.82	50.34				
	DAY	70.17	61.60	62.25	71.31			
	EVE.	68.40	55.23	53.22	68.73			
	NIGHT	62.34	53.70	54.47	63.48			
	CNEL	71.57	62.39	62.95	72.57			

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.57	69.56	66.55	64.79	63.54	62.57	61.78	59.56

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1803	904	292	286	279	180	90	29

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.37	66.85	62.34	59.70	57.82	56.37	55.18	51.85

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	454	286	135	133	131	98	62	29

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - Alicia Pkwy. \ La Paz Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS			MED. TR			HVY. TR		
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	28800			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	—	—LEQ'S	at 50 FT —		
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	70.12	61.55	62.20	71.27
	EVE.	68.36	55.19	53.17	68.69
	NIGHT	62.30	53.66	54.42	63.44
	CNEL	71.53	62.35	62.90	72.53

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	72.53	69.51	66.50	64.74	63.49	62.53	61.73

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	1784	894	289	283	276	178	89

SOFT SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	71.33	66.81	62.29	59.65	57.78	56.33	55.14

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	451	284	134	132	130	97	61

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - La Paz Rd.\Oso Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 21500

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

---	-LEQ'S	at 50 FT ---
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	68.86	60.28	60.93	70.00
EVE.	67.09	53.92	51.90	67.42
NIGHT	61.03	52.39	53.15	62.17

CNEL	70.26	61.08	61.63	71.26
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LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.26	68.25	65.24	63.47	62.22	61.26	60.46	58.25

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1332	668	216	211	206	133	67	21

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.06	65.54	61.02	58.38	56.51	55.06	53.87	50.54

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	371	234	110	109	107	80	50	23

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - Oso Pkwy.\City Limits

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	-----	MED.TR	-----	-----	HVY.TR	-----
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 23100

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

-----	-LEQ'S	at 50 FT	-----
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	69.17	60.60	61.25	70.31
EVE	67.40	54.23	52.21	67.73
NIGHT	61.34	52.70	53.46	62.48

CNEL	70.57	61.39	61.94	71.57
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LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.57	68.56	65.55	63.79	62.54	61.57	60.78	58.56

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1431	717	232	227	222	143	72	23

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.37	65.85	61.34	58.70	56.82	55.37	54.18	50.85

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	389	246	116	114	112	84	53	25

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - El Toro Rd. \ Los Alisos Blvd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 22300

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	69.01	60.44	61.09	70.15
EVE	67.25	54.07	52.06	67.58
NIGHT	61.19	52.55	53.31	62.33

CNEL	70.42	61.24	61.79	71.41
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.41	68.40	65.39	63.63	62.38	61.41	60.62	58.40

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1382	692	224	219	214	138	69	22

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.21	65.70	61.18	58.54	56.67	55.21	54.03	50.70

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	380	240	113	111	110	82	52	24

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - Los Alisos Blvd.\Laguna Hills Dr.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 32800
 Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS M.T. H.T.
 69.34 77.62 82.14

--- -LEQ'S at 50 FT ---
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 70.69 62.12 62.77 71.83
 EVE. 68.92 55.75 53.74 69.25
 NIGHT 62.86 54.22 54.99 64.00

CNEL 72.09 62.91 63.47 73.09

 LEVEL GROUND ONLY

HARD SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 73.09 70.08 67.07 65.31 64.06 63.09 62.30 60.08

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 2032 1019 330 322 315 203 102 32

SOFT SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 71.89 67.37 62.86 60.22 58.34 56.89 55.70 52.37

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 492 310 146 144 142 106 67 31

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - Laguna Hills Dr. \Alicia Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 27100

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	69.86	61.29	61.94	71.00
EVE	68.09	54.92	52.91	68.42
NIGHT	62.03	53.39	54.16	63.17

CNEL	71.26	62.08	62.64	72.26
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.26	69.25	66.24	64.48	63.23	62.26	61.47	59.25

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1679	842	272	266	260	168	84	27

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.06	66.55	62.03	59.39	57.51	56.06	54.87	51.55

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	433	273	129	127	125	93	59	27

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - Alicia Pkwy.\La Paz Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 13000

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

---	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 66.67 58.10 58.75 67.81

EVE 64.90 51.73 49.72 65.23

NIGHT 58.84 50.20 50.97 59.98

CNEL 68.07 58.89 59.45 69.07

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 69.07 66.06 63.05 61.29 60.04 59.07 58.28 56.06

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 805 404 131 128 125 81 40 13

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 67.87 63.36 58.84 56.20 54.32 52.87 51.68 48.36

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 265 167 79 78 77 57 36 17

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - La Paz Rd./Cabot Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 6000
 Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS M.T. H.T.
 69.34 77.62 82.14

— LEQ'S at 50 FT —
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 63.31 54.74 55.39 64.45
 EVE 61.55 48.37 46.36 61.87
 NIGHT 55.49 46.85 47.61 56.62

CNEL 64.72 55.53 56.09 65.71

LEVEL GROUND ONLY

HARD SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 65.71 62.70 59.69 57.93 56.68 55.71 54.92 52.70

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 372 186 60 59 58 37 19 6

SOFT SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 64.51 60.00 55.48 52.84 50.97 49.51 48.33 45.00

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 158 100 47 46 46 34 22 10

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Ave. de Carlota - El Toro Rd./Los Alisos Blvd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 16600
 Enter MPH= 45

Ref. Emission

Levels at 50 ft AUTOS M.T. H.T.
 69.34 77.62 82.14

— — — — —
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 67.73 59.16 59.81 68.87
 EVE 65.97 52.79 50.78 66.29
 NIGHT 59.90 51.27 52.03 61.04

CNEL 69.14 59.95 60.51 70.13

LEVEL GROUND ONLY

HARD SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 70.13 67.12 64.11 62.35 61.10 60.13 59.34 57.12

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 1029 515 167 163 159 103 52 16

SOFT SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 68.93 64.42 59.90 57.26 55.39 53.93 52.74 49.42

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 312 197 93 91 90 67 42 20

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Aliso Hills Dr. - Alicia Pkwy. \ Alameda Ave.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED. TR	MED. TR	MED. TR	HVY. TR	HVY. TR	HVY. TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 2600

Enter MPH= 40

Ref. Emission

Levels at 50 ft	AUTOS	M.T.	H.T.
	67.36	76.31	81.16

	-LEQ'S	at 50 FT
AUTOS	M.T.	H.T.
		TOTAL

Ref. Level (N=1) 36.07 45.02 49.87

DAY	58.21	50.31	51.29	59.56
EVE	56.44	43.94	42.26	56.83
NIGHT	50.38	42.42	43.51	51.73

CNEL	59.61	51.10	51.99	60.80
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	60.80	57.79	54.78	53.02	51.77	50.80	50.00	47.79

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	120	60	19	19	19	12	6	2

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	59.60	55.08	50.57	47.92	46.05	44.60	43.41	40.08

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	74	47	22	22	21	16	10	5

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Aliso Hills Dr. - Alameda Ave. \La Paz Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	1600							
Enter	MPH=	40							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	67.36	76.31	81.16						
	—	—LEQ'S	at 50 FT —						
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	36.07	45.02	49.87						
	DAY	56.10	48.20	49.18	57.45				
	EVE.	54.33	41.83	40.15	54.72				
	NIGHT	48.27	40.31	41.40	49.62				
	CNEL	57.50	49.00	49.88	58.69				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	58.69	55.68	52.67	50.91	49.66	48.69	47.90	45.68

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	74	37	12	12	11	7	4	1

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	57.49	52.97	48.46	45.82	43.94	42.49	41.30	37.97

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	54	34	16	16	16	12	7	3

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alameda Ave. - La Paz Rd./Aliso Hills Dr.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 2100

Enter MPH= 25

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
59.44	71.09	77.24

—	—LEQ'S	at 50 FT —	—
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 30.19 41.84 47.99

DAY	51.40	46.20	48.48	53.98
EVE	49.64	39.83	39.45	50.43
NIGHT	43.57	38.31	40.70	46.16

CNEL	52.81	46.99	49.18	55.10
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	55.10	52.09	49.08	47.32	46.07	45.10	44.31	42.09

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	32	16	5	5	5	3	2	1

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	53.90	49.38	44.87	42.23	40.35	38.90	37.71	34.38

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	31	20	9	9	9	7	4	2

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - La Paz Rd. \ Paseo de Valencia

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	8300							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		69.34	77.62	82.14					
		-----	-LEQ'S	at 50 FT	---				
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		37.54	45.82	50.34					
	DAY	64.72	56.15	56.80	65.86				
	EVE.	62.96	49.78	47.77	63.28				
	NIGHT	56.89	48.26	49.02	58.03				
	CNEL	66.13	56.94	57.50	67.12				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	67.12	64.11	61.10	59.34	58.09	57.12	56.33	54.11

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	514	258	83	82	80	51	26	8

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	65.92	61.41	56.89	54.25	52.38	50.92	49.73	46.41

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	197	124	58	58	57	42	27	12

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - Paseo de Valencia\Nellie Gail Rd.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 13400
 Enter MPH= 45

Ref. Emission

Levels at 50 ft AUTOS M.T. H.T.
 69.34 77.62 82.14

— — — — —
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 66.80 58.23 58.88 67.94
 EVE 65.04 51.86 49.85 65.36
 NIGHT 58.97 50.34 51.10 60.11

CNEL 68.21 59.02 59.58 69.20

LEVEL GROUND ONLY

HARD SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 69.20 66.19 63.18 61.42 60.17 59.20 58.41 56.19

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 830 416 135 132 129 83 42 13

SOFT SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 68.00 63.49 58.97 56.33 54.46 53.00 51.81 48.49

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 271 171 80 79 78 58 37 17

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - Nellie Gail Rd.\Oso Pkwy.

SCENARIO: Existing

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	11000		
Enter	MPH=	45		
Ref. Emission				
Levels at 50 ft	AUTOS	M.T.	H.T.	
	69.34	77.62	82.14	
	—	—LEQ'S	at 50 FT —	
	AUTOS	M.T.	H.T.	TOTAL
Ref. Level (N=1)	37.54	45.82	50.34	
	DAY	65.94	57.37	58.02
	EVE	64.18	51.01	48.99
	NIGHT	58.12	49.48	50.24
	CNEL	67.35	58.17	58.72
				68.35

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	68.35	65.33	62.32	60.56	59.31	58.35	57.55	55.33

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	682	342	111	108	106	68	34	11

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	67.15	62.63	58.11	55.47	53.60	52.15	50.96	47.63

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	237	150	71	70	68	51	32	15

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - Oso Pkwy. City Limits

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 9100

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

---	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	65.12	56.55	57.20	66.26
EVE.	63.36	50.18	48.17	63.68
NIGHT	57.29	48.66	49.42	58.43

CNEL	66.53	57.34	57.90	67.52
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	67.52	64.51	61.50	59.74	58.49	57.52	56.73	54.51

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	564	283	91	89	87	56	28	9

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	66.32	61.81	57.29	54.65	52.78	51.32	50.13	46.81

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	209	132	62	61	60	45	28	13

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Lake Forest Dr. - Moulton Pkwy. Ave. de Carlota

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	27000						
Enter	MPH=	45						
Ref. Emission								
Levels at 50 ft		AUTOS	M.T.	H.T.				
		69.34	77.62	82.14				
		---	-LEQ'S	at 50 FT	---			
		AUTOS	M.T.	H.T.	TOTAL			
Ref. Level (N=1)		37.54	45.82	50.34				
	DAY	69.84	61.27	61.92	70.98			
	EVE	68.08	54.90	52.89	68.41			
	NIGHT	62.02	53.38	54.14	63.16			
	CNEL	71.25	62.07	62.62	72.24			

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.24	69.23	66.22	64.46	63.21	62.24	61.45	59.23

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1673	838	271	265	259	167	84	27

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.04	66.53	62.01	59.37	57.50	56.04	54.86	51.53

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	432	272	128	126	125	93	59	27

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Ridge Route - Moulton Pkwy.\Ave. de Carlota

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	—	AUTOS—	—	—	MED.TR	—	—	HVY.TR	—
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 9000

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

—	-LEQ'S	at 50 FT —
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 65.07 56.50 57.15 66.21

EVE 63.31 50.13 48.12 63.64

NIGHT 57.25 48.61 49.37 58.39

CNEL 66.48 57.29 57.85 67.47

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 67.47 64.46 61.45 59.69 58.44 57.47 56.68 54.46

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 558 279 90 88 86 56 28 9

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 66.27 61.76 57.24 54.60 52.73 51.27 50.09 46.76

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 208 131 62 61 60 45 28 13

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - Lake Forest Dr.\Ridge Route

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	35000							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	69.34	77.62	82.14						
	—	—LEQ'S	at 50 FT —						
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	37.54	45.82	50.34						
DAY	70.97	62.40	63.05	72.11					
EVE.	69.21	56.03	54.02	69.53					
NIGHT	63.14	54.51	55.27	64.28					
CNEL	72.38	63.19	63.75	73.37					

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.37	70.36	67.35	65.59	64.34	63.37	62.58	60.36

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2169	1087	352	344	336	217	109	34

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.17	67.66	63.14	60.50	58.63	57.17	55.98	52.66

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	513	324	153	150	148	111	70	32

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Ave. de Carlota - Lake Forest Dr. \Ridge Route

SCENARIO: Existing

TRAFFIC MIX SELECTIONS - FHWA MODEL (CAIVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	-----	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	14000			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	-----	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	66.99	58.42	59.07	68.13
	EVE	65.23	52.05	50.04	65.55
	NIGHT	59.16	50.53	51.29	60.30
	CNEL	68.40	59.21	59.77	69.39

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.39	66.38	63.37	61.61	60.36	59.39	58.60	56.38

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	867	435	141	137	134	87	43	14

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	68.19	63.68	59.16	56.52	54.65	53.19	52.00	48.68

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	279	176	83	82	80	60	38	18

NOISE DATA FOR PREFERRED GENERAL PLAN

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Interstate 5 - El Toro Rd. \ Alicia Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 335600

Enter MPH= 55

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
72.73	79.85	83.81

---	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 40.05 47.18 51.14

DAY	82.70	76.30	78.83	84.85
EVE	83.09	70.68	75.25	83.96
NIGHT	75.54	69.89	75.61	79.13

CNEL	84.89	77.96	82.74	87.47
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	87.47	84.46	81.45	79.69	78.44	77.47	76.68	74.46

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	55693	27913	9032	8827	8626	5569	2791	883

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	86.27	81.75	77.24	74.60	72.72	71.27	70.08	66.75

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	4469	2820	1329	1309	1289	963	607	282

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Interstate 5 - Alicia Pkwy.\La Paz Rd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	304500			
Enter	MPH=	55			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	72.73	79.85	83.81		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	40.05	47.18	51.14		
	DAY	82.28	75.88	78.41	84.43
	EVE	82.67	70.25	74.82	83.53
	NIGHT	75.12	69.46	75.19	78.71
	CNEL	84.46	77.53	82.31	87.05

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	87.05	84.04	81.03	79.26	78.02	77.05	76.25

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	50532	25326	8195	8009	7826	5053	2533

SOFT SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600
CNEL=	85.85	81.33	76.82	74.17	72.30	70.85	69.66

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0
Dist. =	4188	2643	1246	1227	1208	902	569

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Interstate 5 - La Paz Rd.\Oso Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS			MED.TR			HVY.TR		
IN USE	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	261900						
Enter	MPH=	55						
Ref. Emission								
Levels at 50 ft	AUTOS	M.T.	H.T.					
	72.73	79.85	83.81					
	—	—LEQ'S	at 50 FT —					
	AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)	40.05	47.18	51.14					
	DAY	81.63	75.22	77.75	83.77			
	EVE.	82.01	69.60	74.17	82.88			
	NIGHT	74.46	68.81	74.53	78.06			
	CNEL	83.81	76.88	81.66	86.39			

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	86.39	83.38	80.37	78.61	77.36	76.39	75.60	73.38

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	43462	21783	7049	6888	6732	4346	2178	689

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	85.19	80.68	76.16	73.52	71.65	70.19	69.00	65.68

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	3788	2390	1127	1109	1092	816	515	239

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: El Toro Rd. - Ave. de Carlota\Paseo de Valencia

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	-----	MED.TR	-----	-----	HVY.TR	-----
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	35200						
Enter	MPH=	35						
Ref. Emission								
Levels at 50 ft		AUTOS	M.T.	H.T.				
		65.11	74.83	80.05				
		-----	-LEQ'S	at 50 FT	-----			
		AUTOS	M.T.	H.T.	TOTAL			
Ref. Level (N=1)		34.40	44.12	49.34				
	DAY	67.85	60.72	62.07	69.49			
	EVE	66.09	54.35	53.04	66.57			
	NIGHT	60.03	52.83	54.29	61.66			
	CNEL	69.26	61.51	62.77	70.70			

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.70	67.69	64.67	62.91	61.66	60.70	59.90	57.69

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1171	587	190	186	181	117	59	19

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.50	64.98	60.46	57.82	55.95	54.50	53.31	49.98

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	340	215	101	100	98	73	46	21

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Los Alisos Blvd. - Ave. de Carlota/Paseo de Valencia

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 23700

Enter MPH= 40

Ref. Emission

Levels at 50 ft	AUTOS	M.T.	H.T.
	67.36	76.31	81.16

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1)	36.07	45.02	49.87
------------------	-------	-------	-------

DAY	67.81	59.91	60.89	69.16
EVE	66.04	53.54	51.86	66.43
NIGHT	59.98	52.01	53.10	61.33
CNEL	69.21	60.70	61.58	70.39

 LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.39	67.38	64.37	62.61	61.36	60.39	59.60	57.38

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1093	548	177	173	169	109	55	17

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.19	64.68	60.16	57.52	55.65	54.19	53.01	49.68

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	325	205	97	95	94	70	44	21

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Los Alisos Blvd - Paseo de Valencia\I-5

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	30000							
Enter	MPH=	40							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		67.36	76.31	81.16					
		-----	-LEQ'S	at 50 FT	---				
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		36.07	45.02	49.87					
	DAY	68.83	60.93	61.91	70.18				
	EVE	67.06	54.56	52.88	67.45				
	NIGHT	61.00	53.04	54.13	62.35				
	CNEL	70.23	61.73	62.61	71.42				

	*****	*****	*****	*****	*****	*****	*****	*****
	LEVEL GROUND ONLY							
HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.42	68.41	65.40	63.64	62.39	61.42	60.63	58.41
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1383	693	224	219	214	138	69	22
SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.22	65.70	61.19	58.55	56.67	55.22	54.03	50.70
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	380	240	113	111	110	82	52	24

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - West of Moulton Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR.CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 21000

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

---	--LEQ'S	at 50 FT --
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	68.75	60.18	60.83	69.89
EVE.	66.99	53.81	51.80	67.31
NIGHT	60.93	52.29	53.05	62.06

CNEL	70.16	60.97	61.53	71.15
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.15	68.14	65.13	63.37	62.12	61.15	60.36	58.14

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1301	652	211	206	202	130	65	21

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.95	65.44	60.92	58.28	56.41	54.95	53.77	50.44

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	365	230	109	107	105	79	50	23

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Moulton Pkwy. \Aliso Hills Dr.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS--	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	34700							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	69.34	77.62	82.14						
	---	-LEQ'S	at 50 FT	---					
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	37.54	45.82	50.34						
	DAY	70.93	62.36	63.01	72.07				
	EVE	69.17	55.99	53.98	69.50				
	NIGHT	63.11	54.47	55.23	64.25				
	CNEL	72.34	63.16	63.71	73.33				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.33	70.32	67.31	65.55	64.30	63.33	62.54	60.32

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2150	1078	349	341	333	215	108	34

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.13	67.62	63.10	60.46	58.59	57.13	55.95	52.62

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	510	322	152	149	147	110	69	32

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Aliso Hills Dr.\Paseo de Valencia

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	36100			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	71.11	62.53	63.18	72.25
	EVE	69.34	56.17	54.15	69.67
	NIGHT	63.28	54.64	55.40	64.42
	CNEL	72.51	63.33	63.88	73.51

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.51	70.50	67.49	65.72	64.48	63.51	62.71	60.50

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2237	1121	363	354	346	224	112	35

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.31	67.79	63.28	60.63	58.76	57.31	56.12	52.79

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	524	331	156	153	151	113	71	33

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Paseo de Valencia/Costeau Dr.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS-	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	34900			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	70.96	62.39	63.04	72.10
	EVE	69.19	56.02	54.01	69.52
	NIGHT	63.13	54.49	55.26	64.27
	CNEL	72.36	63.18	63.74	73.36

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.36	70.35	67.34	65.58	64.33	63.36	62.57	60.35

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2162	1084	351	343	335	216	108	34

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.16	67.64	63.13	60.49	58.61	57.16	55.97	52.64

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	512	323	152	150	148	110	70	32

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Alicia Pkwy. - Costeau Dr. I-5

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS			MED. TR			HVY. TR		
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	47200						
Enter	MPH=	45						
Ref. Emission								
Levels at 50 ft		AUTOS	M.T.	H.T.				
		69.34	77.62	82.14				
		—	—LEQ'S	at 50 FT —				
		AUTOS	M.T.	H.T.	TOTAL			
Ref. Level (N=1)		37.54	45.82	50.34				
	DAY	72.27	63.70	64.35	73.41			
	EVE	70.50	57.33	55.32	70.83			
	NIGHT	64.44	55.80	56.57	65.58			
	CNEL	73.67	64.49	65.05	74.67			

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	74.67	71.66	68.65	66.89	65.64	64.67	63.88	61.66

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2924	1466	474	463	453	292	147	46

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.47	68.96	64.44	61.80	59.92	58.47	57.28	53.96

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	627	395	186	184	181	135	85	40

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - West of Moulton Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	38900							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	69.34	77.62	82.14						
	---	-LEQ'S	at 50 FT	---					
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	37.54	45.82	50.34						
	DAY	71.43	62.86	63.51	72.57				
	EVE	69.66	56.49	54.48	69.99				
	NIGHT	63.60	54.96	55.73	64.74				
	CNEL	72.83	63.65	64.21	73.83				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.83	70.82	67.81	66.05	64.80	63.83	63.04	60.82

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2410	1208	391	382	373	241	121	38

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.63	68.12	63.60	60.96	59.08	57.63	56.44	53.12

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	551	348	164	161	159	119	75	35

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - Moulton Pkwy. \ Alameda Ave.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED. TR	---	---	HVY. TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	21100							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		69.34	77.62	82.14					
		---	-LEQ'S	at 50 FT	---				
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		37.54	45.82	50.34					
	DAY	68.77	60.20	60.85	69.91				
	EVE	67.01	53.83	51.82	67.34				
	NIGHT	60.95	52.31	53.07	62.09				
	CNEL	70.18	60.99	61.55	71.17				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.17	68.16	65.15	63.39	62.14	61.17	60.38	58.16

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1307	655	212	207	202	131	66	21

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.97	65.46	60.94	58.30	56.43	54.97	53.79	50.46

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	366	231	109	107	106	79	50	23

NOISE DATA

PROJECT: *Laguna Hills General Plan*

JN: TPN202

ROADWAY: *La Paz Rd. - Alameda Ave. \Aliso Hills Dr.*SCENARIO: *Preferred GP*

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	21700							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		69.34	77.62	82.14					
		---	-LEQ'S	at 50 FT	---				
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		37.54	45.82	50.34					
	DAY	68.90	60.32	60.97	70.04				
	EVE.	67.13	53.96	51.94	67.46				
	NIGHT	61.07	52.43	53.19	62.21				
	CNEL	70.30	61.12	61.67	71.30				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.30	68.29	65.28	63.51	62.27	61.30	60.50	58.29
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1345	674	218	213	208	134	67	21
SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.10	65.58	61.07	58.42	56.55	55.10	53.91	50.58
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	373	236	111	109	108	80	51	24

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - Aliso Hills Dr.\Paseo de Valencia

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	22500			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	69.05	60.48	61.13	70.19
	EVE	67.29	54.11	52.10	67.61
	NIGHT	61.23	52.59	53.35	62.36
	CNEL	70.46	61.27	61.83	71.45

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.45	68.44	65.43	63.67	62.42	61.45	60.66	58.44

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1394	699	226	221	216	139	70	22

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.25	65.74	61.22	58.58	56.71	55.25	54.07	50.74

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	382	241	114	112	110	82	52	24

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: La Paz Rd. - Paseo de Valencia/Cabot Rd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	25800							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	69.34	77.62	82.14						
	—	—LEQ'S	at 50 FT —						
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	37.54	45.82	50.34						
	DAY	69.65	61.08	61.73	70.79				
	EVE	67.88	54.71	52.69	68.21				
	NIGHT	61.82	53.18	53.94	62.96				
	CNEL	71.05	61.87	62.42	72.05				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.05	69.04	66.03	64.27	63.02	62.05	61.26	59.04

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1599	801	259	253	248	160	80	25

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.85	66.33	61.82	59.18	57.30	55.85	54.66	51.33

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	419	264	125	123	121	90	57	26

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Oso Pkwy. - West of Moulton Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 25600

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

---	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 69.61 61.04 61.69 70.75

EVE 67.85 54.67 52.66 68.18

NIGHT 61.79 53.15 53.91 62.93

CNEL 71.02 61.83 62.39 72.01

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.01	69.00	65.99	64.23	62.98	62.01	61.22	59.00

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 1586 795 257 251 246 159 79 25

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.81	66.30	61.78	59.14	57.27	55.81	54.63	51.30

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 417 263 124 122 120 90 57 26

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Oso Pkwy. - Moulton Pkwy. \Nellie Gail Rd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	-----	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 29100

Enter MPH= 45

Ref. Emission

Levels at 50 ft	AUTOS	M.T.	H.T.
	69.34	77.62	82.14

---	-LEQ'S	at 50 FT ---
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	70.17	61.60	62.25	71.31
EVE	68.40	55.23	53.22	68.73
NIGHT	62.34	53.70	54.47	63.48

CNEL	71.57	62.39	62.95	72.57
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.57	69.56	66.55	64.79	63.54	62.57	61.78	59.56

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1803	904	292	286	279	180	90	29

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.37	66.85	62.34	59.70	57.82	56.37	55.18	51.85

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	454	286	135	133	131	98	62	29

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Oso Pkwy. - Nellie Gail Rd. I-5

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	-----	MED.TR	-----	-----	HVY.TR	-----
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	31400			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft		AUTOS	M.T.	H.T.	
		69.34	77.62	82.14	
		-----	-LEQ'S	at 50 FT	-----
		AUTOS	M.T.	H.T.	TOTAL
Ref. Level (N=1)		37.54	45.82	50.34	
	DAY	70.50	61.93	62.58	71.64
	EVE	68.73	55.56	53.55	69.06
	NIGHT	62.67	54.03	54.80	63.81
	CNEL	71.90	62.72	63.28	72.90

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.90	69.89	66.88	65.12	63.87	62.90	62.11	59.89

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1946	975	316	308	301	195	98	31

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.70	67.19	62.67	60.03	58.15	56.70	55.51	52.19

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	478	301	142	140	138	103	65	30

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - North of Alicia Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 35100
 Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS M.T. H.T.
 69.34 77.62 82.14

--- -LEQ'S at 50 FT ---
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 70.98 62.41 63.06 72.12
 EVE 69.22 56.04 54.03 69.55
 NIGHT 63.16 54.52 55.28 64.30

CNEL 72.39 63.21 63.76 73.38

LEVEL GROUND ONLY

HARD SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.38	70.37	67.36	65.60	64.35	63.38	62.59	60.37

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2175	1090	353	345	337	217	109	34

SOFT SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.18	67.67	63.15	60.51	58.64	57.18	56.00	52.67

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	514	325	153	151	148	111	70	32

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - Alicia Pkwy. \ La Paz Rd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS			MED. TR			HVY. TR		
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	44000							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		69.34	77.62	82.14					
		---	-LEQ'S	at 50 FT	---				
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		37.54	45.82	50.34					
	DAY	71.97	63.39	64.04	73.11				
	EVE	70.20	57.03	55.01	70.53				
	NIGHT	64.14	55.50	56.26	65.28				
	CNEL	73.37	64.19	64.74	74.37				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	74.37	71.36	68.35	66.58	65.33	64.37	63.57	61.36

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2726	1366	442	432	422	273	137	43

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.17	68.65	64.13	61.49	59.62	58.17	56.98	53.65

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	598	377	178	175	172	129	81	38

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - La Paz Rd. \Oso Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CAIVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	-----	MED.TR	-----	-----	HVY.TR	-----
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 44700

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

-----	-LEQ'S	at 50 FT	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY	72.03	63.46	64.11	73.17
EVE	70.27	57.09	55.08	70.60
NIGHT	64.21	55.57	56.33	65.35

CNEL	73.44	64.26	64.81	74.43
------	-------	-------	-------	-------

 LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600 1000
CNEL=	74.43	71.42	68.41	66.65	65.40	64.43	63.64 61.42

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0 75.0
Dist. =	2770	1388	449	439	429	277	139 44

SOFT SITE	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600 1000
CNEL=	73.23	68.72	64.20	61.56	59.69	58.23	57.05 53.72

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0 75.0
Dist. =	604	381	180	177	174	130	82 38

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - Oso Pkwy.\City Limits

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS--	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 36400
 Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS M.T. H.T.
 69.34 77.62 82.14

--- -LEQ'S at 50 FT ---
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 71.14 62.57 63.22 72.28
 EVE. 69.38 56.20 54.19 69.70
 NIGHT 63.31 54.68 55.44 64.45

CNEL 72.55 63.36 63.92 73.54

LEVEL GROUND ONLY

HARD SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.54	70.53	67.52	65.76	64.51	63.54	62.75	60.53

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2255	1130	366	357	349	226	113	36

SOFT SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.34	67.83	63.31	60.67	58.80	57.34	56.15	52.83

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	527	333	157	154	152	114	72	33

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - El Toro Rd. \ Los Alisos Blvd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	54700							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		69.34	77.62	82.14					
		---	---LEQ'S---	at 50 FT---					
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		37.54	45.82	50.34					
	DAY	72.91	64.34	64.99	74.05				
	EVE.	71.14	57.97	55.96	71.47				
	NIGHT	65.08	56.45	57.21	66.22				
	CNEL	74.31	65.13	65.69	75.31				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	75.31	72.30	69.29	67.53	66.28	65.31	64.52	62.30
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	3389	1699	550	537	525	339	170	54
SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	74.11	69.60	65.08	62.44	60.56	59.11	57.92	54.60
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	691	436	206	202	199	149	94	44

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - Los Alisos Blvd. \Laguna Hills Dr.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	43700							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft		AUTOS	M.T.	H.T.					
		69.34	77.62	82.14					
		---	--LEQ'S	at 50 FT ---					
		AUTOS	M.T.	H.T.	TOTAL				
Ref. Level (N=1)		37.54	45.82	50.34					
	DAY	71.94	63.36	64.01	73.08				
	EVE.	70.17	57.00	54.98	70.50				
	NIGHT	64.11	55.47	56.23	65.25				
	CNEL	73.34	64.16	64.71	74.34				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	74.34	71.33	68.32	66.55	65.31	64.34	63.54	61.33
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2708	1357	439	429	419	271	136	43
SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.14	68.62	64.11	61.46	59.59	58.14	56.95	53.62
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	595	376	177	174	172	128	81	38

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - Laguna Hills Dr. Alicia Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED. TR	---	---	HVY. TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 36200
Enter MPH= 45

Ref. Emission
Levels at 50 ft

AUTOS M.T. H.T.
69.34 77.62 82.14

--- -LEQ'S at 50 FT ---
AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 71.12 62.55 63.20 72.26
EVE 69.35 56.18 54.17 69.68
NIGHT 63.29 54.65 55.42 64.43

CNEL 72.52 63.34 63.89 73.52

LEVEL GROUND ONLY

HARD SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.52	70.51	67.50	65.74	64.49	63.52	62.73	60.51

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2243	1124	364	355	347	224	112	36

SOFT SITE *****

Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.32	67.80	63.29	60.65	58.77	57.32	56.13	52.80

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	525	331	156	154	151	113	71	33

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Paseo de Valencia - Alicia Pkwy.\La Paz Rd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	16000							
Enter	MPH=	45							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	69.34	77.62	82.14						
	-----	-LEQ'S	at 50 FT	---					
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	37.54	45.82	50.34						
	DAY	67.57	59.00	59.65	68.71				
	EVE	65.81	52.63	50.62	66.13				
	NIGHT	59.74	51.11	51.87	60.88				
	CNEL	68.98	59.79	60.35	69.97				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.97	66.96	63.95	62.19	60.94	59.97	59.18	56.96
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	991	497	161	157	154	99	50	16
SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	68.77	64.26	59.74	57.10	55.23	53.77	52.58	49.26
CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	305	192	91	89	88	66	41	19

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Aliso Hills Dr. - Alicia Pkwy.\Alameda Ave.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	3100							
Enter	MPH=	40							
Ref. Emission									
Levels at 50 ft	AUTOS	M.T.	H.T.						
	67.36	76.31	81.16						
	—	—LEQ'S	at 50 FT —						
	AUTOS	M.T.	H.T.	TOTAL					
Ref. Level (N=1)	36.07	45.02	49.87						
	DAY	58.97	51.08	52.05	60.32				
	EVE	57.21	44.71	43.02	57.60				
	NIGHT	51.14	43.18	44.27	52.50				
	CNEL	60.38	51.87	52.75	61.56				

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	61.56	58.55	55.54	53.78	52.53	51.56	50.77	48.55

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	143	72	23	23	22	14	7	2

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	60.36	55.85	51.33	48.69	46.81	45.36	44.17	40.85

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	84	53	25	25	24	18	11	5

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Aliso Hills Dr. - Alameda Ave. \ La Paz Rd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 2800

Enter MPH= 40

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
67.36	76.31	81.16

---	-LEQ'S	at 50 FT ---
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 36.07 45.02 49.87

DAY	58.53	50.63	51.61	59.88
EVE.	56.76	44.26	42.58	57.15
NIGHT	50.70	42.74	43.83	52.05

CNEL	59.93	51.43	52.31	61.12
------	-------	-------	-------	-------

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 61.12 58.11 55.10 53.34 52.09 51.12 50.33 48.11

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 129 65 21 20 20 13 6 2

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 59.92 55.40 50.89 48.25 46.37 44.92 43.73 40.40

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 78 49 23 23 23 17 11 5

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - La Paz Rd.\Paseo de Valencia

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 27300
 Enter MPH= 45

Ref. Emission
 Levels at 50 ft

AUTOS M.T. H.T.
 69.34 77.62 82.14

— LEQ'S at 50 FT —
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 69.89 61.32 61.97 71.03
 EVE 68.13 54.95 52.94 68.45
 NIGHT 62.07 53.43 54.19 63.20

CNEL 71.30 62.11 62.67 72.29

 LEVEL GROUND ONLY

HARD SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 72.29 69.28 66.27 64.51 63.26 62.29 61.50 59.28

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 1691 848 274 268 262 169 85 27

SOFT SITE *****
 Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 71.09 66.58 62.06 59.42 57.55 56.09 54.91 51.58

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 435 274 129 127 125 94 59 27

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - Paseo de Valencia\Nellie Gail Rd.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 29000

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

—	—LEQ'S	at 50 FT —
AUTOS	M.T.	H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 70.15 61.58 62.23 71.30

EVE 68.39 55.22 53.20 68.72

NIGHT 62.33 53.69 54.45 63.47

CNEL 71.56 62.38 62.93 72.56

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 72.56 69.55 66.53 64.77 63.52 62.56 61.76 59.55

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 1797 901 291 285 278 180 90 28

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 71.36 66.84 62.32 59.68 57.81 56.36 55.17 51.84

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 453 286 135 133 131 98 62 29

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - Nellie Gail Rd.\Oso Pkwy.

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS	-----	---	MED.TR	---	---	-----	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	28600			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	70.09	61.52	62.17	71.24
	EVE	68.33	55.15	53.14	68.66
	NIGHT	62.27	53.63	54.39	63.41
	CNEL	71.50	62.32	62.87	72.49

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.49	69.48	66.47	64.71	63.46	62.49	61.70	59.48

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1772	888	287	281	274	177	89	28

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.29	66.78	62.26	59.62	57.75	56.29	55.11	51.78

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	449	283	133	131	129	97	61	28

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Cabot Rd. - Oso Pkwy.\City Limits

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	24500			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT ---		
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	69.42	60.85	61.50	70.56
	EVE	67.66	54.48	52.47	67.98
	NIGHT	61.60	52.96	53.72	62.73
	CNEL	70.83	61.64	62.20	71.82

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.82	68.81	65.80	64.04	62.79	61.82	61.03	58.81

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1518	761	246	241	235	152	76	24

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	70.62	66.11	61.59	58.95	57.08	55.62	54.44	51.11

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	405	255	120	119	117	87	55	26

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Lake Forest Dr. - Moulton Pkwy. Ave. de Carlota

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	---	AUTOS---	---	---	MED.TR---	---	---	HVY.TR---	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	35600			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	71.05	62.47	63.12	72.19
	EVE.	69.28	56.11	54.09	69.61
	NIGHT	63.22	54.58	55.34	64.36
	CNEL	72.45	63.27	63.82	73.45

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	73.45	70.44	67.43	65.66	64.41	63.45	62.65	60.44

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	2206	1105	358	350	342	221	111	35

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	72.25	67.73	63.21	60.57	58.70	57.25	56.06	52.73

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	519	328	154	152	150	112	71	33

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Ridge Route - Moulton Pkwy.\Ave. de Carlota

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS--	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 13600

Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS	M.T.	H.T.
69.34	77.62	82.14

---	--LEQ'S	at 50 FT --	---
AUTOS	M.T.	H.T.	TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 66.87 58.29 58.94 68.01

EVE 65.10 51.93 49.91 65.43

NIGHT 59.04 50.40 51.16 60.18

CNEL 68.27 59.09 59.64 69.27

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 69.27 66.26 63.25 61.49 60.24 59.27 58.47 56.26

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 843 422 137 134 131 84 42 13

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000

CNEL= 68.07 63.55 59.04 56.39 54.52 53.07 51.88 48.55

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0

Dist. = 273 172 81 80 79 59 37 17

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Moulton Pkwy. - Lake Forest Dr.\Ridge Route

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS - FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	AUTOS	AUTOS	AUTOS	MED.TR	MED.TR	MED.TR	HVY.TR	HVY.TR	HVY.TR
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR. CORR.	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter ADT= 35900
 Enter MPH= 45

Ref. Emission

Levels at 50 ft

AUTOS M.T. H.T.
 69.34 77.62 82.14

— -LEQ'S at 50 FT —
 AUTOS M.T. H.T. TOTAL

Ref. Level (N=1) 37.54 45.82 50.34

DAY 71.08 62.51 63.16 72.22
 EVE 69.32 56.14 54.13 69.64
 NIGHT 63.25 54.62 55.38 64.39

CNEL 72.49 63.30 63.86 73.48

LEVEL GROUND ONLY

HARD SITE *****

Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 73.48 70.47 67.46 65.70 64.45 63.48 62.69 60.47

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 2224 1115 361 353 345 222 111 35

SOFT SITE *****

Dist. = 50 100 200 300 400 500 600 1000
 CNEL= 72.28 67.77 63.25 60.61 58.74 57.28 56.09 52.77

CNEL= 57.0 60.0 64.9 65.0 65.1 67.0 70.0 75.0
 Dist. = 522 329 155 153 151 112 71 33

NOISE DATA

PROJECT: Laguna Hills General Plan

JN: TPN202

ROADWAY: Ave. de Carlota - Lake Forest Dr.\Ridge Route

SCENARIO: Preferred GP

TRAFFIC MIX SELECTIONS -- FHWA MODEL (CALVENO)

	DAY	EVE	NIGHT	DAY	EVE	NIGHT	DAY	EVE	NIGHT
	-----	AUTOS--	-----	---	MED.TR	---	---	HVY.TR	---
IN USE	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
ART.	0.7551	0.1257	0.0934	0.0156	0.0009	0.0019	0.0064	0.0002	0.0008
FWY.	0.6583	0.1798	0.0949	0.0292	0.0020	0.0050	0.0210	0.0023	0.0075
TR CORR	0.6703	0.1831	0.0966	0.0225	0.0019	0.0056	0.0150	0.0013	0.0037
BY INPUT	?	?	?	?	?	?	?	?	?

(Make sure that @SUM=1.0000 in the next column.)

Enter your selection by copying the chosen line into the "IN USE" line.

Enter	ADT=	20500			
Enter	MPH=	45			
Ref. Emission					
Levels at 50 ft	AUTOS	M.T.	H.T.		
	69.34	77.62	82.14		
	---	-LEQ'S	at 50 FT	---	
	AUTOS	M.T.	H.T.	TOTAL	
Ref. Level (N=1)	37.54	45.82	50.34		
	DAY	68.65	60.08	60.73	69.79
	EVE	66.88	53.71	51.70	67.21
	NIGHT	60.82	52.18	52.95	61.96
	CNEL	70.05	60.87	61.43	71.05

LEVEL GROUND ONLY

HARD SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	71.05	68.04	65.03	63.27	62.02	61.05	60.26	58.04

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	1270	637	206	201	197	127	64	20

SOFT SITE	*****	*****	*****	*****	*****	*****	*****	*****
Dist. =	50	100	200	300	400	500	600	1000
CNEL=	69.85	65.33	60.82	58.18	56.30	54.85	53.66	50.33

CNEL=	57.0	60.0	64.9	65.0	65.1	67.0	70.0	75.0
Dist. =	359	227	107	105	104	77	49	23

**D. NOTICE OF
PREPARATION**

NOTICE OF PREPARATION

TO: Tom Loftus

FROM: The Planning Department

State Clearinghouse

City of Laguna Hills

400 10th Street

25201 Paseo de Alicia #150

Sacramento, CA 95814

Laguna Hills, CA 92653

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report

The City of Laguna Hills will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the probable environmental effects are contained in the attached materials. A copy of the Environmental Checklist ☒ is, ☐ is not, attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Mr. Mike Thiele, Planning Director at the address shown above. We will need the name of a contact person in your agency.

Project Title: City of Laguna Hills General Plan/EIR

Project Applicant, if any: City Initiated

Date: 6/2/93

Signature: Mike Thiele

Title: Planning Director

Telephone: (714) 707-2600

CITY OF LAGUNA HILLS GENERAL PLAN

NOTICE OF PREPARATION

Figure 1
Laguna Hills Vicinity Map



LEGEND

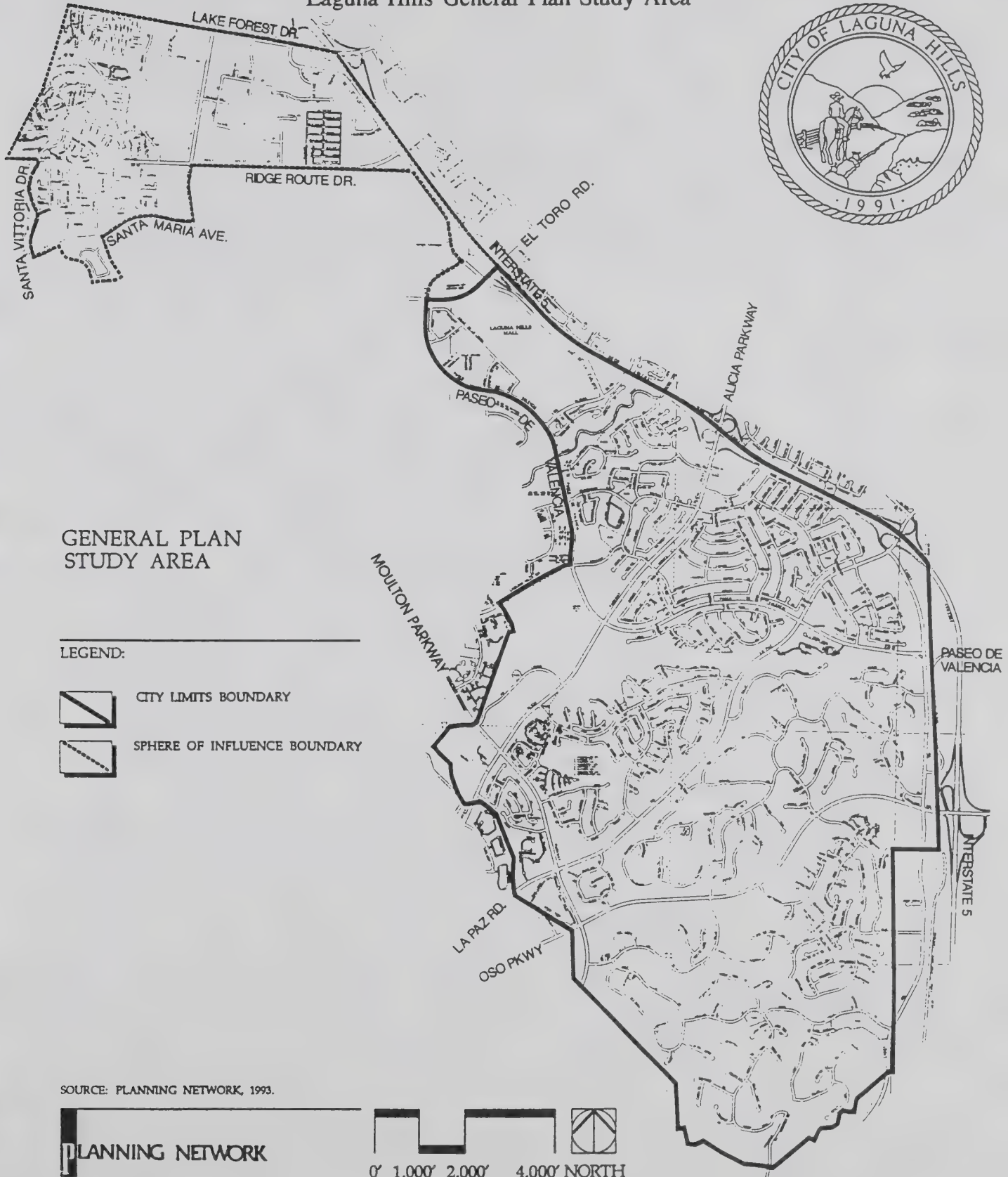
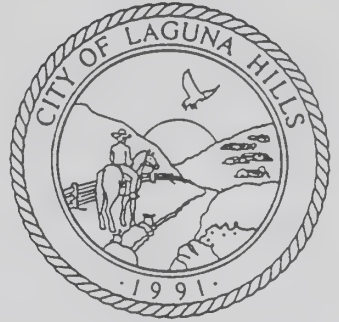


COUNTY BOUNDARY

CITY OF LAGUNA HILLS GENERAL PLAN

NOTICE OF PREPARATION

Figure 2
Laguna Hills General Plan Study Area



NOTICE OF PREPARATION

I. BACKGROUND

A. LOCATION

Located in southern Orange County along the west side of the heavily traveled San Diego Freeway (I-5), and east of the proposed San Joaquin Hills Transportation Corridor, the City of Laguna Hills presently encompasses an area of approximately five square miles, and has a population of 22,700. The City of Laguna Hills is bounded by the cities of Lake Forest, Mission Viejo, and Laguna Niguel, as well as large areas of unincorporated territory including Rossmore Leisure World (see Figure 1, Laguna Hills Vicinity Map). The City is predominantly built out, with little available land for future development. Major development of the community has occurred over a period of years under the County of Orange General Plan.

B. HISTORY

In earlier days, nomadic peoples roamed the Saddleback Valley, living along Aliso Creek and Trabuco Creek. 'Gabrielinos' and 'Juanenos' were native Americans who lived in the Valley where Laguna Hills is located. The Spanish explorer Gaspar de Portola and Father Junipero Serra traveled through the Saddleback Valley on several expeditions in an effort to establish outposts and missions.

Laguna Hills is located on a portion of one of the major land grants developed during California's rancho era. Following Mexico's independence from Spain in 1821, those who had served in the government or who had friends in authority, were given vast lands for ranching. Rancho Lomas de Santiago, Rancho San Joaquin, and Rancho Niguel covered much of the western portion of the Saddleback Valley. Don Juan Avila was granted the 13,000 acre Rancho Niguel on which Laguna Hills is located.

In 1874, Lewis Moulton purchased Rancho Niguel from Don Juan Avila, and increased the original grant to 22,000 acres. Moulton and his partner, Jean Pierre Daguerre, used the ranch to raise sheep and cattle. Eventually, thousands of acres were leased for raising barley and beans. Following the death of the two partners (Daguerre in 1911 and Moulton in 1938), women members of these pioneering families successfully managed the large-scale ranching operations. The Moulton Ranch, part of which is now recognized as Laguna Hills, was eventually subdivided in the early 1960s. Although Laguna Hills is an established community, the City itself is in its infancy. It was not until December 20, 1991, that the City of Laguna Hills was officially incorporated.

In order to ensure that the City's General Plan addresses issues within all areas of the City, a comprehensive General Plan study area has been established (See Figure 2). This planning area will take into consideration areas outside the current City limits in recognition of the interrelationships between the City of Laguna Hills and surrounding cities, and area within the City's adopted sphere of influence.

CITY OF LAGUNA HILLS GENERAL PLAN

NOTICE OF PREPARATION

C. EXISTING LAND USE

Residential development is the predominant land use type in the General Plan study area, comprising 66.9 percent of the total General Plan study area. The varied topography within the community lends itself to single family development with a curvilinear street pattern, with either large lot equestrian development, or traditional urban densities along minor ridgelines and significant amounts of open space preserved in adjacent hillside or canyons. Multiple Family development is clustered at the edges of single family neighborhoods at or near major arterial streets and local shopping centers within the incorporated portion of the General Plan study area, or in the northwestern portion of the City's annexation area.

The residential character of the community can be attributed to the several planned communities that were developed throughout the General Plan study area prior to incorporation. Apart from the Nellie Gail Ranch development, very few areas in the City were developed without the adoption of planned community guidelines and standards. The Nellie Gail Ranch development, which was developed with a strong equestrian orientation, is the dominant residential area within the General Plan study area.

The City has a very well defined pattern of nonresidential land uses. Regional commercial and office uses have been developed in the northern portion of the General Plan study area to take advantage of regional freeway access, visibility, and activity generated by the Laguna Hills Mall. Community commercial and office developments are clustered at the intersection of major arterial streets throughout the City close to the surrounding neighborhoods which they serve. Employment generating land uses are focused in and around the Laguna Hills Mall, the Saddleback Memorial Medical Center, and to the north, within the Laguna Hills Business Center Planned Community. An inventory of the existing residential and nonresidential development within the General Plan study area is included in Table I-1.

Currently, there are 613 acres of open space used for public and private parks, landscape easements, and drainage facilities within the General Plan study area. Although this accounts for 15 percent of the overall land use, only about 78 acres has been dedicated for recreational use. Nearly all vacant land in the General Plan study area has been developed, is in the process of being developed, or has been reserved for public safety or environmental mitigation.

CITY OF LAGUNA HILLS GENERAL PLAN

NOTICE OF PREPARATION

Table I-1
Existing Land Use

Land Use	City of Laguna Hills		Sphere of Influence		Total General Plan Study Area	
	Acres	Percent	Acres	Percent	Acres	Percent
Single Family	2,295.87	69.0	127.0	16.8	2,422.87	59.3
Multi-Family	134.53	4.0	174.9	23.1	309.43	7.52
Commercial	220.8	6.7	129.0	17.1	349.8	8.6
Office	27.5	0.8	68.8	9.1	96.3	2.4
Industrial/ Business Park	0.0	0.0	154.3	20.4	154.3	3.8
Public Facilities	20.6	0.6	0.0	0.0	20.6	0.5
Recreation	51.96	1.6	26.0	3.5	77.96	1.9
Commercial Recreation	11.6	0.3	0.0	0.0	11.6	0.28
Schools	91.6	2.8	10.0	1.3	101.6	2.5
Open Space	470.24	14.2	65.0	8.7	535.24	13.2
Subtotal	3,324.7	100.0	755.0	100.0	4,079.7	100.0

Source: Planning Network, 1993.

D. ENVIRONMENTAL SETTING

TOPOGRAPHY

The topography of the Laguna Hills study area varies greatly from north to south. The northern portion of the General Plan study area (north of Paseo De Valencia, and including the sphere of influence area) is essentially flat with elevations ranging from 300 feet mean above sea level to 428 feet above mean sea level, with the highest point located south of Aliso Creek. Elevations south of Paseo De Valencia range from 200 feet above mean sea level within local canyons to over 650 feet above mean sea level atop prominent ridges. The highest point in the General Plan study area is located south of the intersection of La Paz Road and Paseo De Valencia in the Nellie Gail Ranch development.

CITY OF LAGUNA HILLS GENERAL PLAN

NOTICE OF PREPARATION

LOCAL GEOLOGY

Tertiary marine and non-marine rocks, capped by recent surficial units, underlie the General Plan study area. It is on these bedrock areas that the major geologic forces of uplift, erosion and deposition have been acting for million of years. These forces result in the distribution of distinctive land forms. The following bedrock formations, from oldest to the youngest, occur within the General Plan study area:

- the Sespe Formation;
- the Vaqueros Formation;
- the Monterey Formation;
- the Capistrano Formation;
- the Niguel Formation;
- non-marine terrace deposits; and
- recent alluvium, slopewash and artificial fill.

CLIMATE AND METEOROLOGY

The Laguna Hills study area is located in the South Coast Air Basin (SCAB). Rainfall within the SCAB is distinctly seasonal, practically all occurring between November and April. Annual average relative humidity is approximately 70 percent. Wind speeds are very light and show little seasonal variation. The dominant daily wind pattern is a diurnal sea breeze followed by a nocturnal land breeze. This regime is broken only by occasional winter storms and infrequent strong northeasterly Santa Ana flows from the mountains and deserts to the north.

All of the above mentioned features of Laguna Hills' climate come from the interaction of meteorological influences with the area's topography. Most important of all meteorological influences in Southern California is the Pacific High, a semi-permanent high pressure cell centered over the eastern Pacific. During the late spring, summer, and early fall, descending warm air from the Pacific High blankets a cooler layer of air closer to the ground. This stable temperature inversion inhibits the vertical dispersion of air pollutants. Coupled with abundant sunshine and light surface winds, both common at these times of the year, the increased quantities of photochemically produced air pollutants are not readily dispersed. The region's most serious air quality problems occur during these conditions.

BIOLOGY

The General Plan study area is now mostly composed of residential development, urban infrastructure, and commercial and light industry centers. These current and historic land uses have replaced most of the native vegetation and wildlife resources that once occupied this part of southern Orange County. At present, most of the City's streets and residential communities are lushly landscaped, giving an aesthetic impression of natural character. However, ornamental shrubs and trees such as eucalyptus, acacia, oleander, olive, and pepper, as well as common ground covers like Bermuda grass and iceplant, offer little or no habitat value for most native wildlife species. Nevertheless, several areas remain within the General Plan study area that exhibit native vegetation and function as important habitat for a variety of native wildlife, and have the potential to support several sensitive species.

NOTICE OF PREPARATION

Open space occupies a relatively small portion of the General Plan study area, chiefly situated in narrow strips along existing drainage courses and adjacent to the major arterial roadways. Most of the biologically significant areas are concentrated along the natural drainages that pass through the area, specifically Aliso Creek and its tributaries, Oso Creek, and a San Diego Creek tributary in the City's sphere of influence that connects to the Veeh Ranch Reservoir. Additional open space areas occur in several small public parks and within residential tracts. Many residents of Laguna Hills enjoy equestrian activities, and much of the open space in the central and eastern parts of the City is used for both public and private pasture and riding activities. Most of these areas consist of introduced annual grasses and ornamental landscaping within and adjacent to residential communities.

WILDLIFE

Within the General Plan study area, the habitats described above support a variety of wildlife species. The composition of the species found in a given area is dependent upon the plant community present, the availability of water and forage, and the time of the year for some species.

A few fish species may be expected in the General Plan study area drainages, especially mosquitofish, an exotic species frequently introduced to help control mosquito populations. At least one sensitive species, the arroyo chub, a State species of concern, may still occur in the short reach of Oso Creek which passes through the northeastern corner of the General Plan study area. The tidewater goby, expected to be Federally listed as endangered in 1993, is another resident of coastal drainages in the vicinity, including Oso and Aliso Creeks. However, the goby is unlikely to occur in the General Plan study area as its favored habitat is usually closer to creek mouths with strong marine influence.

Amphibians such as salamanders, bullfrog, African clawed frog, and tree frog may occur in association with any of the marshy, open water and riparian habitats that occur in the General Plan study area, despite past disturbance and alterations. The African clawed frog, a prolific exotic species often found in ponds and reservoirs in Southern California, may require population control measures if it is identified in the area, because it can rapidly out-compete and displace native amphibians and fish once introduced. Despite increased competition with individual exotic species for depleted wetland resources, it is possible that two sensitive species, the southwestern pond turtle and the spadefoot toad may still occur in the General Plan study area, since suitable habitat is present.

Riparian and open water habitats also support a variety of bird species, including raptors such as red-tailed hawk, red-shouldered hawk, turkey vulture, and several species of owls. Some common birds that require open water include mallard, snowy egret, greater yellowlegs, green-backed heron, American coot, and great blue heron. Summer residents (species that typically nest on the site, then migrate far to the south to spend the winter) that are characteristic of riparian areas in the region include Allen's hummingbird, ash-throated and Pacific-slope flycatchers, black-headed grosbeak and northern oriole. Year-round residents occurring primarily in and around the city's riparian areas include the great horned owl and black phoebe. Riparian areas are attractive to a variety of migrant passerines that occur throughout the region during spring and fall migration; the species expected include yellow, Townsend's and Wilson's warblers. In addition to species that occur primarily in riparian habitats, many species typical of other communities are expected to utilize the riparian areas regularly for foraging, cover and water. It is possible that sufficient willow forest habitat exists, particularly west of Veeh Reservoir, to provide potential nesting habitat for Least Bell's vireo, a State and Federally listed endangered species, although no records of its occurrence in this area were found.

NOTICE OF PREPARATION

II. THE PROPOSED PROJECT

The proposed project is the adoption of the City of Laguna Hills' first General Plan and EIR. While the General Plan elements are a blueprint for regulating development and do not directly cause and affect growth, they are considered a "project" under the California Environmental Quality Act (CEQA), and will be analyzed based on the cumulative impacts to the community that will occur as a result of the development the elements permit within the City.

This EIR is intended to be used for the following discretionary actions by the Lead Agency:

- Adoption of a General Plan;
- Zone changes to achieve consistency between existing zoning designations and the General Plan.

This EIR, along with the supporting General Plan document, will provide for environmental documentation for the implementation of programs contained within the General Plan. It will also provide program level environmental documentation for individual projects which are consistent with the goals, concepts, and strategies of the General Plan. Finally, this EIR will be developed as a "program EIR", which is also intended to include zoning changes to achieve General Plan consistency.

This EIR will not apply to projects or programs that are determined (prior to implementation) to have impacts that were not addressed in the General Plan or for projects that are subsequently determined by a Lead Agency to have significant site-specific impacts, or impacts that were not addressed in the General Plan EIR. In these cases, individual project or site-specific EIR's may be required.

This EIR will also provides environmental documentation for individual projects which are consistent with the goals, objectives, and policies of the General Plan, and which are determined not to have site-specific or unforeseen impacts.

Discussions of the State mandated elements (Land Use, Circulation, Safety, Housing, Open Space, Conservation, and Noise), are proposed to be addressed in four sections entitled Community Development, Municipal Services and Facilities, Environmental Management, and Growth Management in the City of Laguna Hills General Plan. The General Plan also includes a General Plan Implementation and Monitoring Program. In addition to the adoption of a General Plan, the City of Laguna Hills will be compiling information for the creation of a Master Environmental Assessment, to be used as a reference for subsequent environmental reports and studies.

Attachment A

ENVIRONMENTAL CHECKLIST FORM
(To Be Completed By Lead Agency)

I. Background

1. Name of Proponent City of Laguna Hills
2. Address and Phone Number of Proponent Planning Department
25201 Paseo de Alicia, Suite 150, Laguna Hills, CA 92653
(714) 707-2600
3. Date of Checklist June 7, 1993
4. Agency Requiring Checklist City of Laguna Hills
5. Name of Proposal, if applicable City of Laguna Hills -- General Plan/EIR Project

II. Environmental Impacts

(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	☐	☒	☐
b. Disruptions, displacements, compaction or overcovering of the soil?	☒	☐	☐
c. Change in topography or ground surface relief features?	☐	☒	☐
d. The destruction, covering or modification of any unique geologic or physical features?	☐	☐	☒
e. Any increase in wind or water erosion of soils, either on or off the site?	☐	☒	☐
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	☐	☒	☐

- | | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|---|--------------------------|-------------------------------------|--------------------------|
| g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards? | ☐ | ☒ | ☐ |

Substantiation

The Community Development Element will address issues regarding future spatial arrangements in the study area. Policies will be instituted that will ensure that uses permitted in the land use districts reflect the natural capacity of the soil and the environment. This will minimize the exposure of people to known hazards.

2. Air. Will the proposal result in:

- | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| a. Substantial air emissions or deterioration of ambient air quality? | ☒ | ☐ | ☐ |
| b. The creation of objectionable odors? | ☐ | ☒ | ☐ |
| c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally? | ☐ | ☐ | ☒ |

Substantiation

The population of the study area is expected to only slightly increase during the life of the General Plan. While policies regarding Transportation System Management will be included in the General Plan, an increase in automobile emissions is still probable. The General Plan will contain policies directed at minimizing objectionable odors.

3. Water. Will the proposal result in:

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters? | ☐ | ☐ | ☒ |
| b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff? | ☒ | ☐ | ☐ |
| c. Alterations to the course or flow of flood waters? | ☐ | ☒ | ☐ |
| d. Change in the amount of surface water in any water body? | ☐ | ☒ | ☐ |
| e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? | ☐ | ☒ | ☐ |
| f. Alteration of the direction or rate of flow of ground waters? | ☐ | ☐ | ☒ |
| g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? | ☐ | ☐ | ☒ |

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
h. Substantial reduction in the amount of water otherwise available for public water supplies?	☐	☒	☐
i. Exposure of people or property to water related hazards such as flooding or tidal waves?	☐	☒	☐

Substantiation

The rate and amount of surface runoff will increase as the area population increases over the next 20 years. Since the availability of water may be more limited in the future, water conservation measures will be addressed. The General Plan will address issues which ensure flood control structures are sufficient to protect lives and property from flooding. There is a potential for changes to three man-made lakes in the study area. The Veeh Reservoir is part of the existing flood control system in the northern portion of the study area. Since the reservoir is also considered an aesthetic amenity in the area, there is a potential that its configuration could be altered as land uses around the reservoir change. In addition, there are two ponds located in the southcentral portion of the study area which are owned and operated by the Moulton Niguel Water District. Currently these ponds are kept full to preserve the existing layer of clay which lines the ponds.

4. Plant Life. Will the proposal result in :

a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	☐	☒	☐
b. Reduction of the numbers of any unique, rare or endangered species of plants?	☐	☒	☐
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	☐	☒	☐
d. Reduction in acreage of any agricultural crop?	☐	☐	☒

Substantiation

The General Plan will address issues regarding the preservation and/or protection of valuable plant resources. Increased development may impact riparian vegetation found in remaining natural areas undisturbed by development and along drainage channels and man-made flood control structures.

5. Animal Life. Will the proposal result in:

a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	☐	☒	☐
b. Reduction of the numbers of any unique, rare or endangered species of animals?	☐	☒	☐
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	☐	☒	☐

Yes Maybe No

d. Deterioration to existing fish or wildlife habitat?

☐ ☒ ☐

Substantiation

Development in the City and/or sphere of influence may impact areas with native vegetation, which could reduce the overall numbers and/or diversity of animal species. Protection of the unique natural resources within the General Plan study area will be addressed in the General Plan.

6. Noise. Will the proposal result in:

a. Increases in existing noise levels?

☒ ☐ ☐

b. Exposure of people to severe noise levels?

☐ ☒ ☐

Substantiation

Increased noise levels may be expected with projected future population growth, particularly from increases in automobile traffic. However, exposure to damaging noise levels will be addressed in the General Plan.

7. Light and Glare. Will the proposal produce new light or glare?

☐ ☒ ☐

Substantiation

Increased development in Laguna Hills could increase the potential for light and glare. Anticipated lighting policies contained in the General Plan along with standards contained in the Zoning Code should adequately protect the public from exposure to harmful glare from lighting.

8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?

☐ ☒ ☐

Substantiation

Future development in Laguna Hills will likely follow existing trends or patterns of development. Land use compatibility with existing uses and neighborhoods will be addressed in the General Plan.

9. Natural Resources. Will the proposal result in:

a. Increase in the rate of use of any natural resources?

☐ ☒ ☐

Substantiation

Optimum utilization of all natural resources will be addressed in the General Plan. Water, as well as energy conservation measures, will also be addressed in the General Plan.

Yes Maybe No

10. Risk of Upset. Will the proposal involve:

- | | | | |
|--|--------------------------|-------------------------------------|--------------------------|
| a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions? | ☐ | ☒ | ☐ |
| b. Possible interference with an emergency response plan or an emergency evacuation plan? | ☐ | ☒ | ☐ |

Substantiation

The overall risk of upset is unlikely. The City adopted the Orange County Hazardous Waste Management Plan and is currently in the process of adopting an Emergency Response Plan, both of which will reduce the risk to human health and the environment. Expansion of local industrial uses will be monitored to ensure that hazardous materials are properly handled and hazardous wastes generated are properly disposed.

- | | | | |
|---|-------------------------------------|--------------------------|--------------------------|
| 11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area? | ☒ | ☐ | ☐ |
|---|-------------------------------------|--------------------------|--------------------------|

Substantiation

While the population of the City is not expected to change significantly, development on lands presently vacant will increase the future population. Issues associated with future population increases will be addressed in the General Plan.

- | | | | |
|--|-------------------------------------|--------------------------|--------------------------|
| 12. Housing. Will the proposal affect existing housing, or create a demand for additional housing? | ☒ | ☐ | ☐ |
|--|-------------------------------------|--------------------------|--------------------------|

Substantiation

The General Plan will address provisions for adequate housing to accommodate the predicted population increase in the study area during the General Plan period. Policies addressing housing for a variety of income groups, the elderly, and the handicapped, will be included in the General Plan as required by State law. To insure internal consistency with other elements of the General Plan, policies for housing production, availability, affordability and preservation may be modified by constraints and opportunities such as resources, hazards, and public facilities and services issues.

13. Transportation/Circulation. Will the proposal result in:

- | | | | |
|---|--------------------------|-------------------------------------|--------------------------|
| a. Generation of substantial additional vehicular movement? | ☐ | ☒ | ☐ |
| b. Effects on existing parking facilities, or demand for new parking? | ☐ | ☒ | ☐ |
| c. Substantial impact upon existing transportation systems? | ☐ | ☒ | ☐ |
| d. Alterations to present patterns of circulation or movement of people and/or goods? | ☐ | ☒ | ☐ |

- | | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|--|--------------------------|-------------------------------------|--------------------------|
| e. Alterations to waterborne, rail, or air traffic? | ☐ | ☒ | ☐ |
| f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? | ☐ | ☒ | ☐ |

Substantiation

The predicted population increase in the study area both within the City and abutting areas may increase the number of automobiles, thereby placing additional demands on the existing circulation system. Also, future development in the City may require an increase in the amount of land allocated to automobile parking. This may be reduced if an effective Transportation Demand Management System is implemented. Without alternatives to the automobile, the existing circulation system may be constrained due to the projected traffic of the City and the region.

14. Public Services. Will the proposal have an effect upon, or result in a need for new altered governmental services in any of the following areas:

- | | | | |
|---|-------------------------------------|-------------------------------------|--------------------------|
| a. Fire protection? | ☐ | ☒ | ☐ |
| b. Police protection? | ☐ | ☒ | ☐ |
| c. Schools? | ☐ | ☒ | ☐ |
| d. Parks or other recreational facilities? | ☒ | ☐ | ☐ |
| e. Maintenance of public facilities, including roads? | ☐ | ☒ | ☐ |
| f. Other governmental services? | ☐ | ☒ | ☐ |

Substantiation

The predicted population increase in the General Plan study area will place additional demand on public facilities and services (see also number 19). Policies to coordinate future development with the carrying capacity of existing facilities will be contained in the General Plan.

15. Energy. Will the proposal result in :

- | | | | |
|---|--------------------------|-------------------------------------|--------------------------|
| a. Use of substantial amounts of fuel or energy? | ☐ | ☒ | ☐ |
| b. Substantial increase in demand upon existing sources or energy, or require the development of new sources of energy? | ☐ | ☒ | ☐ |

Substantiation

Energy conservation will be addressed in the General Plan. With the predicted population increase in the General Plan study area and the development of housing and support services (including commercial, industrial, and office uses) to accommodate this population, an increase in the amount of energy consumed is likely.

- | | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|---|--------------------------|--------------------------|-------------------------------------|
| 16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to local utilities: | ☐ | ☐ | ☒ |

Substantiation

The initial indication of the local utility companies is that facilities exist or are planned to adequately serve the present and future population of the study area.

- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| 17. Human Health. Will the proposal result in: | | | |
| a. Creation of any health hazard or potential health hazard (excluding mental health)? | ☐ | ☐ | ☒ |
| b. Exposure of people to potential health hazards? | ☐ | ☐ | ☒ |

Substantiation

Issues related to the protection of public health and safety will be addressed in the General Plan.

- | | | | |
|---|--------------------------|-------------------------------------|--------------------------|
| 18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view? | ☐ | ☒ | ☐ |
|---|--------------------------|-------------------------------------|--------------------------|

Substantiation

The extent to which new development and the rehabilitation of existing development within the General Plan study area will have an affect on community design and aesthetics will be addressed in the General Plan.

- | | | | |
|--|-------------------------------------|--------------------------|--------------------------|
| 19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities? | ☒ | ☐ | ☐ |
|--|-------------------------------------|--------------------------|--------------------------|

Substantiation

The creation of opportunities for the development of new active recreational facilities in the General Plan study area is a major goal of the General Plan program. The future expansion of recreational opportunities will be addressed in the General Plan.

- | | | | |
|--|--------------------------|-------------------------------------|--------------------------|
| 20. Cultural Resources. | | | |
| a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site? | ☐ | ☒ | ☐ |
| b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic buildings, structure, or object? | ☐ | ☒ | ☐ |
| c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? | ☐ | ☒ | ☐ |

- | | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|---|--------------------------|--------------------------|-------------------------------------|
| d. Will the proposal restrict existing religious or sacred uses within the potential impact area? | ☐ | ☐ | ☒ |

Substantiation

Preservation of cultural resources is one of the goals in the General Plan.

21. Mandatory Findings of Significance.

- | | | | |
|---|-------------------------------------|-------------------------------------|--------------------------|
| a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory | ☐ | ☒ | ☐ |
| b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.) | ☐ | ☒ | ☐ |
| c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.) | ☒ | ☐ | ☐ |
| d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☒ | ☐ |

Substantiation

While the effects of individual projects may be insignificant, the cumulative impacts of buildout in Laguna Hills may be significant. The carrying capacity of existing facilities and the absorption capacity at buildout must be monitored closely to ensure that new developments do not place undue burden on existing facilities. If implemented properly, the General Plan can enhance the quality of life of City residents.

III. Determination
(To be completed by the Lead Agency.)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION WILL BE PREPARED. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED. ☐

I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☒

6/7/93

Date

Michael Thiele

Signature

For Michael Thiele

E. NOP RESPONSES



**South Coast
AIR QUALITY MANAGEMENT DISTRICT**

21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (909) 396-2000

June 17, 1993

Mr. Mike Thiele
Planning Director
City of Laguna Hills
25201 Pasco de Alcin #150
Laguna Hills, CA 92653

RECEIVED

JUN 21 1993

CITY OF LAGUNA HILLS

Dear Mr. Thiele: -

**Subject: Notice of Preparation of a Draft Environmental Impact Report for
the City of Laguna Hills General Plan**

SCAQMD# LAC930611-01

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the Notice of Preparation for a Draft EIR for the City of Laguna Hills General Plan. SCAQMD is responsible for adopting, implementing, and enforcing air quality regulations in the South Coast Air Quality Management District, which includes the project location. As a responsible agency, SCAQMD reviews and analyzes environmental documents for projects that may generate significant adverse air quality impacts. In this capacity, SCAQMD advises lead agencies in addressing and mitigating the potential adverse air quality impacts caused by projects.

To assist the Lead Agency in the preparation of the air quality analysis for the EIR the following is a summarization for evaluating air quality impacts.

Baseline Information: Describe existing climate and air quality of the region and study area from the District Monitoring station located in the project source receptor area.

Identify and quantify all project Emission Sources.

Compare and assess anticipated project emissions with the District's Thresholds of Significance and the existing air quality of the region and study area.

Identify and assess Toxic Source Emissions within the study area.

Assess Cumulative Air Quality Impacts from the regional area.

Assess Consistency of the General Plan with the AQMP.

June 17, 1993

Identify and quantify **Project Alternatives** that may attain goals of the project with substantially fewer or less significant impacts.

Identify **Mitigation Measures** necessary to reduce air quality impacts substantially.

For additional information please refer to the District's Air Quality Handbook for Preparing Environmental Impact Reports to assess and mitigate adverse air quality impacts. Attached is a list of potential policies and strategies to reduce air quality impacts if incorporated into the General Plan.

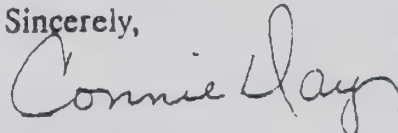
Upon completion of the Draft Environmental Impact Report, please forward two copies to:

Office of Planning & Rules
South Coast Air Quality Management District
21865 Copley Drive
P O Box 4939
Diamond Bar CA 91765-0939

Attn: Local Government - CEQA

If you have any questions, please call me at (714) 396-3055

Sincerely,



Connie Day
Program Supervisor
Local Government - CEQA

Attachment

(genpinop)

ATTACHMENT

POTENTIAL POLICIES AND IMPLEMENTATION STRATEGIES

POLICY 1

To reduce particulate emissions from paved and unpaved roads, construction activities, and agriculture operations.

STRATEGIES:

- o Use low emission mobile construction equipment (e.g., tractor, scraper, dozer etc.).
- o Develop trip reduction plan to achieve 1.5 AVR for construction employees.
- o Water site and clean equipment morning and evening.
- o Spread soil binders on site, unpaved roads and parking areas.
- o Apply District approved chemical soil stabilizers according to manufacturers specifications, to all inactive construction areas (previously graded areas which remain inactive for 96 hours).
- o Reestablish ground cover on construction site through seeding and watering.
- o Implement or contribute to an urban tree planting program to off-set the loss of existing trees at the construction site.
- o Employ construction activity management techniques, such as: extending the construction period; reducing the number of pieces of equipment used simultaneously; increasing the distance between the emission sources; reducing or changing the hours of construction; and scheduling activity during off-peak-hours.
- o Pave construction roads, and sweep streets if silt is carried over to adjacent public thoroughfares.
- o Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less.
- o Require a phased-schedule for construction activities to minimize emissions.
- o Suspend grading operations during first and second stage smog alerts.
- o Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
- o Wash off trucks leaving the site.
- o Maintain construction equipment engines by keeping them tuned.
- o Use low sulfur fuel for stationary construction equipment.
- o Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- o Use low emission on-site stationary equipment.

POLICY 2

To reduce automobile emissions by reducing the number of vehicles driven to a work site on a daily basis:

STRATEGIES

- o Provide local shuttle and regional transit systems and transit shelters,
- o Provide bicycle lanes, storage areas, and amenities.
- o Ensure efficient parking management.
- o Provide dedicated parking spaces with electrical outlets for electric vehicles.
- o Provide peripheral park-n-ride lots.
- o Provide preferential parking to high occupancy vehicles and shuttle services.
- o Charge parking lot fees to low occupancy vehicles.

POLICY 3

To reduce automobile emissions by reducing the number of persons who must drive to a work site on a daily basis:

STRATEGIES

- o Promote Transportation Management Associations (TMAs).
- o Establish telecommuting programs, alternative work schedules, and satellite work centers.
- o Work with cities/developers/citizens in the region to implement TDM goals.

POLICY 4

To reduce vehicular emissions through traffic flow improvements:

STRATEGIES

- o Configure parking to minimize traffic interference.
- o Minimize obstruction of through-traffic lanes.
- o Provide a flagperson to guide traffic properly and ensure safety at construction sites.
- o Schedule operations affecting traffic for off-peak hours.
- o Develop a traffic plan to minimize traffic flow interference from construction activities. Plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service.
- o Schedule goods movements for off-peak traffic hours.
- o Synchronize traffic signals.
- o Provide adequate ingress and egress at all entrances to public facilities to minimize vehicle idling at curbsides.
- o Provide dedicated turn lanes as appropriate.

POLICY 5

To reduce the length of work trips while expanding the supply of affordable housing and creating an urban form that efficiently utilizes urban infrastructure and services.

STRATEGIES

- o Achieve a job/housing balance compatible with the Regional Growth Management Plan.
- o Encourage growth in and around activity centers, transportation nodes and corridors.
- o Promote future patterns of urban development and land use, making better use of existing facilities, and promoting mixed use development involving commercial and residential uses.

POLICY 6

To reduce stationary emissions of operation related activities.

STRATEGIES:

- o Require development practices which maximize energy conservation as a prerequisite to permit approval.
- o Improve the thermal integrity of buildings, and reduce the thermal load with automated time clocks or occupant sensors.
- o Introduce window glazing, wall insulation, and efficient ventilation methods.
- o Introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units.
- o Incorporate appropriate passive solar design, and solar heaters.
- o Use devices that minimize the combustion of fossil fuels.
- o Capture waste heat and reemploy it in nonresidential buildings.
- o Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits.

POLICY 7

To protect sensitive land uses from major sources of air pollution.

STRATEGIES:

- o Integrate additional mitigation measures into site design such as the creation of buffer zones between a potential sensitive receptor's boundary and potential pollution source.
- o Require design features, operating procedures, preventive maintenance, operator training, and emergency response planning to prevent the release of toxic pollutants.



UNITED STATES MARINE CORPS

MARINE CORPS AIR BASE EL TORO
PO BOX 1500
SANTA ANA CA 92706-0500RECEIVED
AUG 10 1993
IN REPLY REFER TO:
11075
AQ/TL1917
20 JUL 1993

Planning Department
Attn: Mr. Mike Thiele
City of Laguna Hills
25201 Paseo de Alicia, Suite 150
Laguna Hills, CA 92653

RECEIVED
JUL 28 1993
CITY OF LAGUNA HILLS

CITY OF LAGUNA HILLS GENERAL PLAN

Dear Mr. Thiele::

The Notice of Preparation Draft EIR for the above project has been reviewed and the following comments are submitted.

Portions of the City of Laguna Hills are impacted by flight operations from Marine Corps Air Station (MCAS) El Toro. The straight-in approach and landing traffic pattern to Runway 34 is the most often used landing pattern at MCAS El Toro. Due to the proximity of the site to the MCAS El Toro aircraft primary approach corridor, the occupants will see and hear low flying jet aircraft and helicopters on their approach into and out of MCAS El Toro.

MCAS El Toro has the following current normal hours of operation:

Monday through Thursday	7:00 a.m. to 10:00 p.m.
Friday	7:00 a.m. to 7:00 p.m.
Saturday and Sunday	9:00 a.m. to 6:00 p.m.

MCAS El Toro is a master jet air station and as such, can operate 24 hours per day, 7 days per week. The above hours of normal operations for the facility are imposed due to fiscal and manpower constraints, as well as being designed to reduce the noise impact of our operations on the surrounding community. Circumstances frequently arise which require an extension of these operating hours due to operational commitments.

Portions of the city are located inside the Air Installations Compatible Use Zones (AICUZ) study area for MCAS El Toro. The policy statements contained in both the County of Orange and City

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20 Jul 1993

of Irvine Noise and Safety Elements have been successful in supporting the land use recommendations contained in the MCAS El Toro Air Installation Compatible Use Zones (AICUZ) study. It is recommended that similar policies be included in the City of Laguna Hills General Plan.

Noise impacts range from the 60 to 70 Community Noise Equivalent Level (CNEL) contours which may adversely impact occupants. Appropriate sound attenuation is recommended to reduce noise impacts as well as acquisition of an aviation easement and full disclosure of aircraft operations.

Portions of the City are also located within Accident Potential Zone (APZ) II which should be addressed in the safety section of the General Plan. For those uses which are judged acceptable in APZ II, development is restricted to no more than 200 persons assembled in any one area or structure capable of being demolished by the crash impact of a single aircraft. Furthermore, structural coverage of any building site should not be greater than 75 percent of the gross available lot area. An appropriate monitoring program should be established to ensure that the density limits are not exceeded.

Other APZ considerations are, but not limited to:

Substances released in the air which would impair the visibility or otherwise interfere with the operations of aircraft, such as, but not limited to, steam, dust and smoke.

Light emissions, either direct or indirect (reflective), which might interfere with pilots' vision.

Electrical or electromagnetic emissions which would interfere with aircraft communications systems or aircraft navigational equipment.

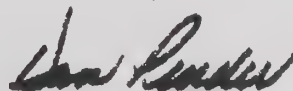
Land uses which would unnecessarily attract birds or waterfowl, such as, but not limited to, the growing of certain types of vegetation attracting birds or waterfowl.

Any proposed use which would be sensitive to electromagnetic (radar) emanation or vibration should be carefully reviewed as aircraft operations may cause interference.

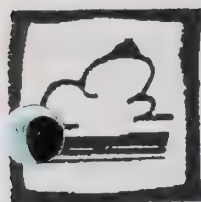
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AQ/TL1912
20 Jul 1993

If you have any questions, please contact Ms. Ann Dotson at (714)
726-3702.

Sincerely,



D. P. PENDER
Colonel, U. S. Marine Corps
Community Plans and Liaison Officer
By direction of the Commander



AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY—12 Civic Center Plaza, Rm. 238, Santa Ana, California 92702-4048
Mailing Address: P.O. Box 4048, Santa Ana, California 92702-4048

Phone: (714) 834-5312

Fax: (714) 834-6132

Mr. Mike Thiele
Planning Director
City of Laguna Hills
25201 Paseo de Alicia #150
Laguna Hills, CA 92653

JUL 15 1993

RECEIVED

JUL 20 1993

CITY OF LAGUNA HILLS

Subject: Notice of Preparation of a DEIR for the City of Laguna Hills General Plan

Dear Mr. Thiele:

Airport Land Use Commission staff has reviewed the above referenced Notice of Preparation (NOP). The General Plan Study Area includes the entire City of Laguna Hills as well as its sphere of influence.

In accordance with Section 21676(b), Article 3.5 of the Public Utilities Code, the subject General Plan must be submitted to the ALUC for their review and determination of consistency with the Airport Environs Land Use Plan (AELUP) prior to the City's approval of the General Plan. In reviewing the NOP staff finds the following noteworthy:

The area shown, in figure 2, as the City's Sphere of Influence lies directly under the main approach corridor for MCAS, El Toro. The land uses allowed by the General Plan, in this area, should be evaluated to determine any potential impact on PAA-adopted surfaces (imaginary surface), aeronautical operations (light and glare) and navigational aids associated with nearby Marine Corps Air Station, El Toro.

This area is also located within 65 CNEL noise contour for MCAS, El Toro, portions of which are located within the 70 CNEL noise contour. Mitigation measures should be adopted to ensure that interior noise levels are maintained to meet the standards found in the Airport Environs Land Use Plan (AELUP).

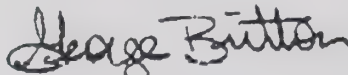
In addition, this area is located within the Accident Potential Zone II for MCAS El Toro. The potential for loss of life and property due to aircraft accidents is sufficient to require density and intensity of use restrictions in this zone as described in the AELUP.

We have attached an AELUP Consistency Review Worksheet that includes the language from the AELUP that we have referred to above. The worksheet may serve as a guide in preparation of policies in the plan.

Mr. Mike Thiele
Page 2

Thank you for the opportunity to comment on this project. Should you have any questions, please feel free to give me a call at 834-5312 or contact Lisa Cibellis directly. Lisa may be reached at 834-2089.

Very truly yours,



George Britton
Executive Officer

LC:tk
3061614494254

Attachment



AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY — 12 Civic Center Plaza, Rm. 238, Santa Ana, California 92702-4048

Mailing Address: P.O. Box 4048, Santa Ana, California 92702-4048

Phone: (714) 834-5312

AELUP Consistency Review Worksheet

The Airport Environs Land Use Plan (AELUP) contains specific guidelines related to three sources of incompatibility: noise, safety and building height. As a means of focusing attention on your individual jurisdiction's land use documents and their relationship to the AELUP, please complete the following information.

Note: "Location" refers to the page or section number in your document where the information can be found.

NOISE

The AELUP standards for residential uses are as follows:

NOISE IMPACT ZONE "1", HIGH NOISE IMPACT (65 CNEL AND ABOVE):

Noise impact in this zone is sufficient to warrant restrictions on residential uses and require sound attenuation measures on other uses. All residential units are unacceptable in this area unless it can be shown conclusively that such units are sufficiently sound attenuated for present and projected noise exposures, which shall be the energy sum of all noise impacting the project, so as not to exceed an interior standard of 45 CNEL. Furthermore, all residential units are to be sufficiently indoor oriented so as to preclude noise impingement on outdoor living activities. Patios and similar outdoor living areas, therefore, are normally unacceptable. (Page 19, emphasis added)

NOISE IMPACT ZONE "2", MODERATE NOISE IMPACT (60 CNEL OR GREATER, LESS THAN 65 CNEL):

Noise impact in this area is sufficient to require sound attenuation as required by the California Noise Insulation Standards, Title 25, California Administrative Code. Single noise events in this area create serious disturbances to many inhabitants. Even though the Commission would not find residential units incompatible in this area, the Commission strongly recommends that residential units be limited or excluded from this area unless sufficiently sound attenuated. The interior sound attenuation Residential use sound attenuation requirements shall be a CNEL value not exceeding an interior level of 45 dB(A). (Page 20)

Are there policies in your General Plan's Noise Element which:

Prohibit all/new residential uses in 65+CNEL areas?

Y N Location: _____

Require an interior standard of 45 CNEL?

Y N Location: _____

Comments: _____

How are these policies implemented?

Zoning Code Section _____

Special Ordinance _____

Standard Condition of Approval (please attach sample)

AELUP noise standards for non-residential uses are as follows:

Institutional uses such as schools, hospitals, libraries, and other noise sensitive uses are also normally unacceptable in this zone [65 CNEL and above]. Commercial, industrial, and recreational uses are acceptable in this zone providing that commercial and industrial structures are sufficiently sound attenuated to allow normal work activities to be conducted. Said structures shall be sound attenuated against the combined input of all present and projected exterior noise to meet the following criteria:

Typical Use

Level L(eq) (12)

Private office, church sanctuary,
board room, conference room, etc.

45

General office, reception, clerical etc.

50

Bank lobby, retail store, restaurant,
typing pool, etc.

(Page 19, emphasis added.)

55

Are there policies in your General Plan's Noise Elements which:

Exclude noise sensitive land uses for 65+CNEL areas?

Y N Location: _____

Require interior standards as noted above?

Y N Location: _____

Require other interior standards?

Y N Location: _____

(Please attach copy)

Comments: _____

How are these policies implemented?

Y N Same as residential.

If different, then please identify:

Zoning Code Section _____

Other Ordinance _____

Standard condition of Approval (please attach sample)

SAFETY

The most significant safety areas are the APZ 1 and APZ 2 zones. If your jurisdiction does not extend into this area, please skip to the Height section.

AELUP Standards for the APZ's are as follows:

ACCIDENT POTENTIAL ZONE "I", CONSIDERABLE CRASH HAZARD:

The potential for loss of life and property due to aircraft accidents is sufficient to require density and intensity of use restrictions in this zone. In accordance with the General Policy, the Commission would find unacceptable any land use where lot coverage exceeded fifty (50) percent or where more than one hundred (100) persons were placed for long periods in a structure (i.e., a free-standing building). All forms of residential uses are unacceptable in this zone, as are places of indoor or outdoor assembly (i.e., churches, schools, conference centers, restaurants etc.). Commercial, industrial, and airport-related uses are acceptable in this zone providing they adhere to the density and intensity of use restrictions.

and,

ACCIDENT POTENTIAL ZONE "II", LIMITED CRASH HAZARD:

The potential for loss of life and property due to aircraft accidents is sufficient to require density and intensity of use restrictions in this zone.

In accordance with the General Policy, the Commission would find unacceptable any land use where lot coverage exceeded seventy-five (75) percent or where more than two hundred (200) persons were placed for long periods in an open assembly area or in a structure (i.e., a free-standing building). Most forms of open space, industrial, commercial, and airport-related uses are acceptable, whereas residential and public facilities (school, churches, etc.) are not acceptable. (Pages 20-21, emphasis added)

The following qualifications apply to both APZ's:

...because of the proximity to aeronautical operations, uses in this area must not emit excessive glare or light, nor produce or cause steam, smoke, dust, or electronic interference so as to interfere with, or endanger, aeronautical operations.

In applying the APZ standards, the Commission considers a free-standing building as one (1) structure despite the existence of fire walls that may separate tenants or users. Furthermore, the Commission considers that if a structure crosses over boundary lines of APZ's I or II or over a boundary between a non-crash hazard area and an APZ, that the entire building shall be considered to be in the most restrictive APZ area regarding density standards. (Page 21, emphasis added)

Are there policies in your General Plan which, within APZ Zones:

Exclude concentrations greater than specified above?

Y N Location: _____

Exclude residential uses and public facilities?

Y N Location: _____

Address issues of glare, smoke, etc?

Y N Location: _____

How are these policies implemented?

APZ Overlay District

Y N Location: _____

Other Zoning Code Restriction

Y N Location: _____

Other Ordinance

Y N Location: _____

BUILDING HEIGHT

Building heights - which for practical purposes involve highrise buildings - are a more complex topic because they are related to various imaginary surfaces at each airport.

Does your agency have a map or other graphic which depicts these surfaces for the airport(s) which impacts you?

Y N Location: _____

The AELUP standards are as follows:

HEIGHT RESTRICTION ZONE:

Any object, which by reason of its height or location would interfere with the established, or planned, airport flight procedures, patterns, or navigational systems, is unacceptable to the Commission. Similarly,

any proposal which would cause a diminution in the utility of an airport is unacceptable to the Commission. The standards, criteria, and procedures promulgated by the FAA for the thorough evaluation of development projects are designed to ensure the safe and efficient use of the navigable airspace. The application of these principles by the Commission will ensure the stability of local air transportation as well as promote land uses compatible with the airport environs. However, any object which rises above the surrounding development, or is located in close proximity to any of the various flight paths, must be clearly visible during hours of twin light or darkness and must not threaten, endanger, or interfere with aeronautical operations. Such objects, even if within the above height restrictions, are not acceptable to the Commission unless they are clearly marked or lighted according to FAA standards.

In reviewing projects, the Commission will find any structure, either within or outside of the planning areas, inconsistent with their AELUP if it:

1. Is determined to be a "hazard" by the FAA;
2. Would raise the ceiling or visibility minimums at an airport for an existing or planned instrument procedure (i.e., a procedure consistent with the FAA-approved airport layout plan or a proposed procedure formally on file with the FAA);
3. Would result in a loss in airport utility, such as causing the usable length of the runway to be reduced;
4. Would conflict with the VFR air space used for the airport traffic pattern or enroute navigation to and from the airport.
(Pages 21-22)

Are there policies in your General Plan which reference FAA studies and clearances?

Y N Location: _____

Are there procedures to ensure that all highrise buildings require a discretionary permit to include review by the ALUC?

Y N Location: _____

GB:eo/tk(COM)
9062111112258

The Gas Company

Orange County Division

RECEIVED

JUN 23 1993

CITY OF LAGUNA HILLS

June 21, 1993

City of Laguna Hills
Planning Dept.
25201 Paseo de Alicia #150
Laguna Hills, CA 92653

Attention: Mike Thiele

Subject: EIR - City of Laguna Hills

This letter is not to be interpreted as a contractual commitment to serve the proposed project, but only as an information service. Its intent is to notify you that the Southern California Gas Company has facilities in the area where the above named project is proposed. Gas service to the project can be served without any significant impact on the environment. The service would be in accordance with the company's policies and extension rules on file with the California Public Utilities Commission at the time contractual arrangements are made.

Due to the scope of the project we will be unable to provide maps for the entire project. Maps for the entire area are available for viewing at our Headquarters Office, 1919 S. State College, Anaheim.

The availability of natural gas service, as set forth in this letter, is based upon present conditions of gas supply and regulatory policies. As a public utility, the Southern California Gas Company is under the jurisdiction of the federal regulatory agencies. Should these agencies take any action which affects gas supply or the condition under which service is available, gas service will be provided in accordance with revised conditions.

Residential (System Area Average)

Yearly

Single-family	750 therms/year/dwelling unit
Multi-family units	475 therms/year/dwelling unit

These averages are based on total gas consumption in residential units served by Southern California Gas Company during 1985, and it should not be implied that any particular home, apartment or tract of homes will use these amounts of energy.

Southern California
Gas Company

Mailing Address:

Box 3334

Anaheim, CA

92803 3334

Estimates of gas usage for non-residential projects are developed on an individual basis and are obtained from a Market Services Staff representative by calling (714)634-3188.

We have developed several programs which are available, upon request, to provide assistance in selecting the most energy efficient appliances or systems for a particular project. If you desire further information on any of our energy programs, please contact this office for assistance.

Sincerely,

A handwritten signature in cursive script that reads "Robert S. Warth".

Robert S. Warth
Technical Supervisor

AT:du
attachment

EIRRESCO.DOC

CITY OF LAKE FOREST



June 30, 1993

Mr. Mike Thiele
Planning Director
City of Laguna Hills
25201 Paseo de Alicia #150
Laguna Hills, CA 92653

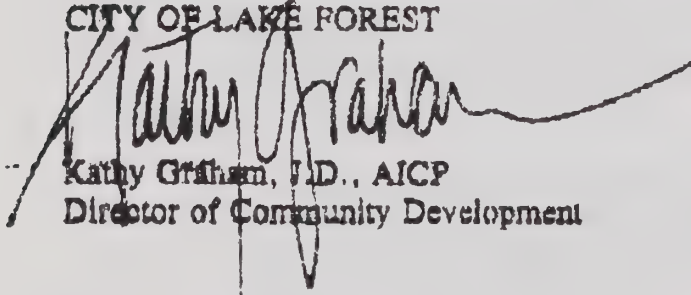
SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL
IMPACT REPORT FOR THE LAGUNA HILLS GENERAL PLAN

Dear Mike:

Thank you for the opportunity to review and comment of the Notice of Preparation (NOP) of the Environmental Impact Report (EIR) for the Laguna Hills General Plan. At this time, the City of Lake Forest has no comments on the NOP, however, we would appreciate the opportunity to review copies of the Draft EIR and General Plan.

Sincerely,

CITY OF LAKE FOREST


Kathy Graham, J.D., AICP
Director of Community Development

cc: Robert Woodings, Director of Public Works

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JUL 02 1993

CITY OF LAGUNA HILLS

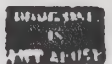
Mayor
Ann Van Haun

Mayor Pro Tem
Marcia Rudolph

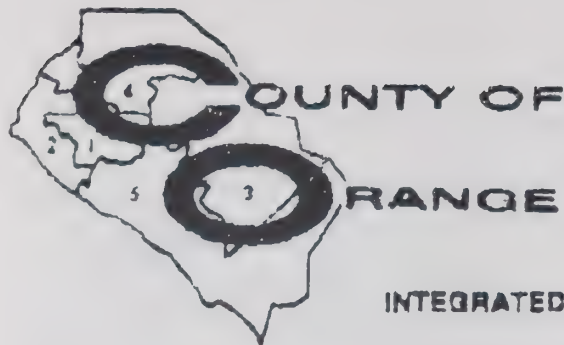
Council Members
Richard T. Dixon
Tim Lick
Helen Wilson

City Manager
Gaylord P. Knapp

City Clerk
Jeri L. Santoly



23778 Mercury Road
Lake Forest, CA 92630
(714) 707-8583
FAX (714) 707-8723



MURRY L. CABLE
Director

VICKI L. WILSON
Assistant Director

INTEGRATED WASTE MANAGEMENT DEPARTMENT

1200 N. Main Street, Suite 201
Santa Ana, California 92701
(714) 568-4180
FAX (714) 834-0754

RECEIVED**JUN 24 1993**

CITY OF LAGUNA HILLS

June 22, 1993

Mr. Mike Thiele, Planning Director
Planning Department
City of Laguna Hills
25201 Paseo de Alicia, #150
Laguna Hills, California 92653

Dear Mr. Thiele:

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT
REPORT, CITY OF LAGUNA HILLS
(File: 90-05-090)

The Integrated Waste Management Department (IWMD) staff has reviewed the above referenced document and does not have any comments.

If you need any additional information, please contact Rudy Diaz at (714) 568-4844.

Sincerely,

Kevin H. Kondru, P.E.
Engineering Supervisor

RD:jc

IWMD:Eng:01704482D.WP61jc



RECEIVED

CITY of LAGUNA NIGUEL

JUN 8 5 1993 CITY COUNCIL

27781 La Paz Road • Laguna Niguel, California 92656
Community Development Department • Public Works/Engineering
Phone:714-362-4360 Fax:714-362-4369

CITY OF LAGUNA HILLS Patricia C. Bates

Janet Godfrey

Mark J. Goodman

James Z. Krembas, Ed.D.

Thomas W. Wilson

June 24, 1993

Mr. Mike Thiele
Planning Director
City of Laguna Hills
25201 Paseo de Alicia
Laguna Hills, CA 92653

SUBJECT: Notice of Preparation - City of Laguna Hills General Plan/EIR

Dear Mr. Thiele:

The City of Laguna Niguel has reviewed the Notice of Preparation for the City of Laguna Hills General Plan Draft EIR and has the following comments.

We are concerned that additional traffic generated from implementation of the Laguna Hills General Plan may have an adverse impact on the operation of the roadway network in and adjacent to the City of Laguna Niguel. Specifically, the City of Laguna Niguel is concerned that what it considers unacceptable Levels of Service (below Level of Service "D") may occur at major intersections within the City of Laguna Hills, that may adversely impact the City of Laguna Niguel.

The traffic study conducted for the General Plan EIR should document the increase in traffic associated with General Plan implementation. Existing and future peak hour Intersection Capacity Utilization (ICU) calculations should be provided for the following intersections that are proximate to the City of Laguna Niguel:

- Greenfield Drive/San Joaquin Hills Transportation Corridor East and Westbound
- Moulton Parkway/San Joaquin Hills Transportation Corridor East and Westbound
- La Paz Road/San Joaquin Hills Transportation Corridor East and Westbound
- Oso Parkway/Moulton Parkway
- La Paz Road/Moulton Parkway
- La Paz Road/Pacific Park Drive (not in Laguna Hills, but potentially impacted)
- Alicia Parkway/Moulton Parkway
- Alicia Parkway/Pacific Park Drive (not in Laguna Hills, but potentially impacted)

In addition to analyzing the impacts to the circulation system related to implementation of the Laguna Hills General Plan, the cumulative impacts of increases in regional traffic should also be addressed.



Community Development Department

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92713 (714) 724-6000

RECEIVED

JUL 08 1993

CITY OF LAGUNA HILLS

July 1, 1993

Mr. Mike Thiele, Planning Director
City of Laguna Hills
25201 Paseo de Alicia #150
Laguna Hills, CA 92653

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT
REPORT FOR THE LAGUNA HILLS GENERAL PLAN

Dear Mr. Thiele:

The Community Development Department has received and reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the City of Laguna Hills General Plan. Based on staff's review of the NOP, staff has no comments at this time.

However, the Community Development Department would like to review the DEIR and General Plan during the 45-day public review period. Please send a copy of both documents to the Community Development Department upon availability.

If you have any questions, please contact Steve Haubert, Principal Planner, at 724-6370.

Sincerely,

PETER HERSH
Manager of Planning Services

rg/laguna.nop

cc: Steve Haubert, Principal Planner
Roger Green, Associate Planner

SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS

18 West Seventh Street, 12th Floor Los Angeles, California 90017-3435

(213) 236-1800 FAX (213) 236-1825

Mr. Mike Thiele, Planning Director
City of Laguna Hills Planning Dept.
25201 Paseo de Alicia, #150
Laguna Hills, CA 92653

August 9, 1993

RECEIVED

AUG 10 1993

CITY OF LAGUNA HILLS

RE: Notice of Preparation of an Environmental Impact Report for the City of Laguna Hills
General Plan (SCAG Clearinghouse Number: I9300299)

Dear Mr. Thiele:

Thank you for submitting the Notice of Preparation of an Environmental Impact Report for the City of Laguna Hills General Plan to SCAG for review and comment. As Areawide Clearinghouse for regionally significant projects, SCAG assists cities, counties, and other agencies to review projects and plans for consistency with the Regional Housing Needs Assessment (RHNA), Regional Mobility Plan (RMP), Growth Management (GMP), and Air Quality Management (AQMP) Plans, all of which are included in the State Implementation Plan (SIP).

The following comments are meant to provide guidance for completing the proposed project within the context of our regional goals and policies which are based in part upon state and federal mandates. While neither the project sponsor nor the lead agency is required to undertake the specific actions recommended by SCAG or other agencies through the Intergovernmental Review Process, there are requirements in state and federal laws for consistency with regional goals and plans. SCAG requests that in the future, all General Plan elements, amendments and updates be submitted to SCAG for review through the Intergovernmental Review Process.

Please provide a minimum of 45 days for SCAG to review the Draft EIR when this document is available.

If you have any questions about the attached comments, please contact Maggie Ide at (213) 236-1881.

Sincerely,



ERIC ROTH
MANAGER

INTERGOVERNMENTAL REVIEW

Gaddi Vasquez Orange County-President, Stella Mendoza City of Brawley-First Vice President, Ed Edelman Los Angeles County-Second Vice President, John Longville City of Rialto-Past President, Richard Alarcon City of Los Angeles, Richard Alatorre City of Los Angeles, Robert Bartlett City of Monrovia, George Bass City of Bell, Ronald Bates City of Los Alamitos, George Battey, Jr. City of Burbank, Hal Bernson City of Los Angeles, Walter Bowman City of Cypress, Marvin Braude City of Los Angeles, Susan Brooks City of Rancho Palos Verdes, Art Brown City of Buena Park, Yvonne Brathwaite-Burke Los Angeles County, Jim Busby, Jr. City of Victorville, Bob Buster Riverside County, Laura Chick City of Los Angeles, John Fox City of Newport Beach, Cynthia Crothers City of Moreno Valley, Elmer Digneo City of Loma Linda, Richard Dixon City of Lake Forest, Douglas Drummond City of Long Beach, Jerry Hayes San Bernardino County, John Ferraro City of Los Angeles, John Flynn Ventura County, Terry Frizzel City of Riverside, Ruth Galanter City of Los Angeles, Sandra Genis City of Costa Mesa, Jackie Goldberg City of Los Angeles, Candace Haggard City of San Clemente, Garland Hardeman City of Inglewood, Robert Hargrave City of Lomita, Mike Hernandez City of Los Angeles, Nate Holden City of Los Angeles, Robert Jamison City of Artesia, Jeff Kellogg City of Long Beach, Jim Kelly City of South El Monte, Richard Kelly City of Palm Desert, Bob Kuhn City of Glendora, Abbe Land City of West Hollywood, Darlene McBane City of Agoura Hills, John Melton City of Santa Paula, Barbara Messina City of Alhambra, Judy Mikels City of Simi Valley, David Myers City of Palmdale, Kathryn Nack City of Pasadena, Bev Perry City of Brea, Gwenn Norton-Perry City of Chino Hills, Ronald Parks City of Temecula, Irv Pickler City of Anaheim, Michael Plisky City of Oxnard, Beatrice Proo City of Pico Rivera, Larry Rhinehart City of Montclair, Dick Riordan City of Los Angeles, Mark Ridley-Thomas City of Los Angeles, Albert Robles City of South Gate, Sam Sharp Imperial County, Rudy Svorinich City of Los Angeles, Bob Stone City of Benflower, Thomas Sykes City of Walnut, Jeff Thomas City of Folsom, Laury Tully-Payne City of Highland, Joel Wachs City of Los Angeles, Rita Walters City of Los Angeles, Evelyn Wells City of Lynwood, Judy Wright City of Claremont, Zev Yaroslavsky City of Los Angeles

SCAG COMMENTS ON NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF LAGUNA HILLS GENERAL PLAN

Description:

The City of Laguna Hills is located in southern Orange County along the west side of the San Diego Freeway (I-5), and east of the proposed San Joaquin Hills Transportation Corridor and is bounded by the cities of Lake Forest, Mission Viejo, and Laguna Niguel, as well as large areas of unincorporated territory including Rossmore Leisure World. The City of Laguna Hills presently encompasses an area of approximately five square miles, and has a population of 22,700.

The City is predominantly built out, with little available land for future development. Currently, there are 613 acres of open space used for public and private parks, landscape easements, and drainage facilities within the General Plan study area. Although this accounts for 15 percent of the overall land use, only about 78 acres had been dedicated for recreational use. Nearly all vacant land in the General Plan study area has been developed, is in the process of being developed, or has been reserved for public safety or environmental mitigation.

REGIONAL ISSUES

From a regional perspective, the basic question that should be addressed is what impact the approval of this General Plan would have on local, subregional and regional plans to balance growth. The emphasis of the analysis should be on inconsistencies between proposed land use for the general plan area and the applicable regional plans.

Some of the major issues of regional significance associated with this proposal which should be considered in future general plan development and development proposals are:

Growth Management -- The City of Laguna Hills is located in the Southeast Orange subregion. The jobs/housing policy ratio for this subregion was 1.45 in 1984 and is projected to be 1.45 in the year 2010. This is a jobs-rich area. Any development which generates a greater subregional jobs/housing ratio imbalance or Vehicle Miles Traveled VMT than is permitted by the GMP will need to be mitigated in a manner which is consistent with regional plans.

Regional Mobility -- Impacts to air quality resulting from mobile sources associated with future development in the proposed area must be mitigated with a Transportation Demand Management Program which includes elements required for conformity with regional plans. As Areawide Clearinghouse, SCAG requests that TDM programs incorporated as mitigation measures in EIRs or as part of project conditions include the following elements:

- A detailed description of the TDM measures incorporated into the project as

mitigation measures or project conditions.

- Expected effect and VMT/VT reduction targets for each component of the TDM program.
- Funding sources for each program component.
- Identification of the agencies or persons responsible for monitoring and administering the TDM programs.
- An implementation schedule for each TDM program component.

Air Quality -- Future general plan amendments or development proposals will need to demonstrate with an air quality analysis that the project will not have significant negative impact on air quality in the long term. The attached standards, extracted from Transportation and Land Use Control Measures: Appendix IV-E to the 1991 Air Quality Management Plan, are provided for your information.

SCAG requests that these issues be addressed in the impact analysis that will be done at the time of the Draft Environmental Impact Report for the City of Laguna Hills General Plan. For purposes of regional conformity, SCAG refers the City of Laguna Hills to Conformity Procedures of the 1991 South Coast Air Quality Management Plan, August 1991.

SCAG refers the City of Laguna Hills to current regional policy which consists of the Regional Housing Needs Assessment, Growth Management Plan, Regional Mobility Plan, and 1991 Air Quality Management Plan, Appendix IV-E, as well as "Guidance for Implementation of 1989 AQMP Conformity Procedures", August 1991. If the City of Laguna Hills General Plan is approved, it is requested that SCAG be notified so that implications for the Regional Comprehensive Plan, which is now under preparation, can be evaluated with respect to transportation, wastewater treatment and other service systems.

One of the advantages of preparing a local general plan in a manner which makes it consistent with the AQMP and other regional plans is that this action triggers a change in SCAG's intergovernmental review procedures. This change enables cities and counties to become certified by SCAG to review their own local projects against their general plans rather than waiting for review at the regional level. The review and approval process for projects can thus be accelerated and the air-quality results will be equally beneficial.

The criteria that have been established for localities wanting to perform conformity and consistency review of their own projects requires that the following actions be taken: (1) Adoption of Appropriate General Plan Element(s); (2) Assurance of Internal General Plan Consistency; (3) Commitment to Implement the General Plan Consistent With Regional Goals and Objectives; (4) Development of Requisite Schedules, Staff Responsibilities and Project Review Procedures; and (5) Monitoring and Reporting on Expeditious Implementation; i.e.

Reasonable Further Progress.

Certification can be achieved by following these steps: A city or county fills out a worksheet provided by SCAG and provides documentation to show that the criteria have been met. The completed questionnaire, accompanied by a request for certification are approved by the jurisdiction's governing body, or by the mayor or chief administrative officer, and transmitted to SCAG. SCAG staff reviews the questionnaire and documentation and any other relevant material, and makes a recommendation as to whether the jurisdiction's general plan has achieved conformity with regional plans, and whether the jurisdiction's staff is equipped to perform local conformity reviews. If policy issues require it, SCAG's Standing Committee on Implementation will be consulted. That committee may make the determination on granting authority to the local jurisdiction, or the matter may be referred to SCAG's Regional Council for judgment. If the request is approved, the jurisdiction then has authority to review its own general development projects for conformity and consistency with regional plans, reporting its actions annually to SCAG.

SCAG will continue to review local general plan amendments, updates, and new elements to assure that conformity with the respective AQMP, and consistency with the RCP, is maintained. SCAG will also conduct annual reviews of localities' progress in implementing the provisions of the RCP and AQMP, including a review of the locality's actions in approving general development projects. As long as the jurisdiction remains eligible to conduct its own conformity reviews, SCAG will not review individual projects.

However, SCAG will continue to review individual projects of regional significance in jurisdictions whose general plans are not consistent, or in conformance with, regional goals and standards.

The process for determining general plan conformity with AQMP/SIP is further described in Chapter IV of SCAG's Guidelines for the Development of Local Air Quality Elements published in March, 1990.

**LOCAL GOVERNMENT MEASURES CONTAINED IN TRANSPORTATION,
LAND USE AND ENERGY CONSERVATION CONTROL MEASURES
OF THE 1991 AIR QUALITY MANAGEMENT PLAN
(AS APPROVED BY SCAG EXECUTIVE COMMITTEE ON JUNE 6, 1991)**

1.a. PERSON WORK TRIP REDUCTION

1. As also indicated in the Non-Motorized Transportation measure, **local governments** adopt by **December 31, 1992** a specific program for telecommuting, alternative work weeks and non-motorized transportation to reduce motor vehicle person work trips by local government employees by 12%. The target would be increased to 20% in 2000 and 30% in 2006.
2. As also indicated in the Non-Motorized Transportation measure, **local governments** are to adopt by **December 31, 1994** trip reduction ordinances requiring employers to reduce employee motor vehicle person work trips through telecommuting, alternative work weeks and non-motorized transportation by 12%. The target would be increased to 20% in 2000 and 30% in 2006.
3. **Local government**, SCAG and SCAQMD seek State legislation by **December 31, 1992**, to provide employer tax credits for telecommuting equipment and services, whether used for satellite work centers or telecommuting from home (market incentive).
4. **Local governments**, county transportation commissions, SCAG and SCAQMD utilize local, state and federal funds to develop telecommuting centers and reduce the cost of the equipment, services or planning used to initiate telecommuting programs. Work would include a program to test which incentives are most effective in gaining employer support for telecommuting, and/or eliminating commute trips or their lengths. Utilize existing commute-trip data bases to match telecommuters with sites for satellite work centers.
5. **Local governments** by **December 31, 1993**, will adopt ordinances requiring regionally significant employment developments in housing-poor areas and regionally significant housing developments in housing-rich areas to implement telecommuting centers in housing-rich areas (market incentive).
6. **Local governments** with jurisdiction over geographically large areas will by **December 31, 1994** begin implementing a policy of using branch offices as telecommuting centers and for including the potential use as a telecommuting center in the analysis of alternative uses of any public facility being closed in housing-rich areas (such as a school or a library).
7. **Local government** must, by **December 31, 1994**, adopt ordinances requiring employers with multiple facilities to set aside space in every office facility above a specified size

to facilitate its use by employees who live near the facility but would normally work at another location. The facility would change in function from a single-function office to a combined office and telecommuting center. A minimum size for application of this measure will be recommended by the AQMP Monitoring Working Group.

8. **Local government** in conjunction with locally licensed businesses and cable television operators is to determine by **December 31, 1994** the feasibility of developing centralized ordering and home delivery services in order to reduce shopping trips. If product prices could be discounted through business overhead savings, delivery costs may be offset. Programs should have phased implementation after 1994.
9. **Local governments** must ensure by **December 31, 1992** that their zoning and licensing ordinances permit telecommuting and do not excessively restrict reasonable home occupations.
10. EPA, SCAG, the SCAQMD, and **local governments** must look at legislation to remove impediments to alternative work schedules in management bargaining agreements.
11. SCAG, SCAQMD, and other agencies and **local governments** should work to get legislation by 1994 for tax incentives for developers to voluntarily establish telecommuting centers in housing-rich areas (employment-to-population ratio less than 0.38).

1.b. NON-MOTORIZED TRANSPORTATION

12. (Same as # 1)
13. (Same as # 2)
14. (Same as #'s 22, 24, 25 and 26)
15. By **December 31, 1994**, **local governments** include bicycle routes in their General Plan that will support the employer and non-work trip bicycle transportation plans implemented as a result of the regulations noted above. As part of this action, an implementation program to develop the routes and support facilities would be adopted by local government.
16. As indicated in measure 17, one option for **local governments** to implement the growth management objectives is to amend their General Plans to allow mixed use and cluster developments, and the location of service commercial uses within walking or bicycling distances of residential areas.
17. By **December 31, 1993**, **local government** will enact ordinances requiring that parking spaces for bicycles be provided in new commercial and industrial developments in excess

of 10,000 square feet and that employee shower and locker facilities be provided in new commercial developments in excess of 100,000 square feet.

2.a. EMPLOYER RIDESHARE & TRANSIT INCENTIVES

18. **Local governments** will adopt ordinances by **December 31, 1992**, to require trip reduction plans for facilities and buildings with more than 100 employees. This requirement will apply to all employers located in facilities or buildings with 100 or more employees. This requirement will also apply to owners of facilities or buildings that have 100 or more employees in any one location or worksite.
19. Support passage of vanpool credit tax legislation for employees who vanpool. **Local governments** should include provision of vanpools among list of options in trip reduction ordinances and require employers to provide preferential parking for vanpool users.

2.b. PARKING MANAGEMENT

20. **Local government** must adopt air quality element or air quality action plans/programs by **December 31, 1992**, which includes as appropriate:
 - o Increase public parking meter fees and rates in all congested centers in the region.
 - o Develop a local government parking fee structure to support Transit and TDM programs.
 - o Impose a surcharge on parking spaces for single occupant vehicles and/or provide a discount for multi-occupant vehicles in all parking facilities.
 - o Reduce availability of peak period on-street parking in congested urban areas; eliminate on-street parking on at-capacity arterials and major transit routes in congested areas during the day by **December 31, 1994**.
 - o Restrict residential parking to residents only through permit process in all areas adjacent to congested commercial activity centers.
 - o Require the marking of parking spaces with adequate time-limit to produce rapid turnover thus increasing supply and reducing residential spillover (short and long term).
 - o Limit the number of parking spaces permitted in specified city zones.
 - o Limit the number of parking spaces permitted per square foot for specified uses.
 - o Additional staff time and/or new parking enforcement techniques to parking

enforcement operations.

- o Limit access to major activity centers to transit and non-motorized modes and to shuttles from peripheral parking only. Also, see TCM 2.e. -- Auto Use Restrictions.
- o Apply employer revenues generated by increased parking fees to transit fares and carpools as an employee subsidy.
- o Reduce the amount of "free" parking provided at non-work centers (e.g. shopping, entertainment enterprises, etc.) by limiting time of free parking, requiring validation, or imposing prices and surcharges based upon vehicle passenger occupancy.

21. **Local government** through ordinance or air quality action plans/programs, or the SCAQMD through a regional rule, or the state through state legislation, shall:

- o Eliminate free on site employee parking for non-residential developments and employment centers, through the "cashing out" of free employee parking, by imposing employee parking charges and replacing the formerly free parking with employee transportation allowances or TDM benefits for employers of 100+ by **December 31, 1992**; and for employers of 25+, by **December 31, 1994**, as a substitute for free parking. This would be done in order to achieve higher transit mode split, vehicle occupancy rates, reduced on-site trip generation, and greater non motorized trip substitution than can normally be achieved with conventional TDM programs.

2.d. MERCHANT TRANSPORTATION INCENTIVES

22. **Local government** to adopt non-work trip reduction ordinances, by **December 31, 1992**, which will require major retail centers to offer customer travel incentives; require owners/managers/developers of both new and existing large retail establishments to provide facilities for non-motorized transportation needs, such as providing bike racks, adequate pathway systems and to design sites to facilitate bicycle and pedestrian movement through mixed use and clustered developments.

Increase non-work related transit mode split by 10% annually (or approximately 52,000 trips per year) over 1984 levels. Set local objectives and provide commensurate mode shift opportunities through carpooling, walking, and bicycling incentive programs. Divert 1% of all trips of three miles or less to the bicycle mode, divert 10% of all auto trips of 1/2 mile or less to walking trips. Divert 12% of single occupant auto trips to carpool of 2+ persons.

2.e. AUTO USE RESTRICTIONS

23. **Local government** adoption of Air Quality Elements in General Plans or air quality action plans/programs by **December 31, 1992**, which will identify, as appropriate, the local applicability of requiring special event centers to operate park-n-ride and off-site facility lots, requiring auto free zones, requiring street closure during peak periods, and enhancing transit performance.
24. Adopt **local ordinances**, by **December 31, 1993**, requiring, as appropriate in light of the analysis of benefits and burdens undertaken pursuant to the General Plan requirement, special event centers such as stadiums, concert halls and amusement parks with potential capacities of 10,000 or more individuals at a time to establish Park-n-Ride and off-site parking facility lots at remote locations. Such ordinances might require measures such as the provision of shuttle service to and from events, increased parking fees at the facility, and require the operator to advertise and offer for sale discounted transit passes with event tickets or to implement similarly effective measures as may be suggested by the Special Event Center for alleviating traffic and air quality concerns associated with its operations. Such ordinances would also take into account local objectives and provide commensurate mode shift opportunities for carpooling. An on-site transportation coordinator, if determined to be appropriate, would manage and monitor the center's trip reduction programs to ensure their success, as well as continue to develop strategies to reduce VMT.
25. The ordinances, Air Quality Elements or air quality action plans/programs would specify requirements for new development and pedestrian malls and the coordination with (existing and planned) Park-n-Ride lots, rail service and bus lines.
26. The ordinances, Air Quality Elements or air quality action plans/programs would, as appropriate in light of the analysis by local agencies, restrict vehicle access to major activity centers to shuttles via peripheral parking, transit, and non-motorized modes; require **local governments** to close streets as needed. The criteria for street closure are determined by local government and consist of heavy peak-period congestion and lack of parking, combined with existing or potential heavy pedestrian activity. Auto restricted areas must be adequately served by transit/shuttle/park'n'ride.
27. **Local government** must provide enhancement of transit performance and availability in auto restricted zones and make the transit system user-friendly; improve the local transit system to tie into major truck lines, develop fee structures and passes to facilitate passenger movement between systems, and improved bus service (time schedule, performance, and connections). Provide computerized transit directories at major event centers, major activity centers, and any other area where parking is severely limited. Establish developer fees to offset transit development costs and further develop incentives to encourage local government to develop localized transit systems.

3.a. TRUCK DISPATCHING, RESCHEDULING & REROUTING

28. **Local government** shall adopt air quality elements or air quality action plans/programs and/or ordinances and MOUs by **December 31, 1992**, which will include as appropriate:
- o Truck Restrictions on Arterials During Peak Periods. Establish truck restrictions on operating schedules of heavy duty vehicles or prohibit operation during peak periods to relieve congestion on major arterials, taking into consideration time sensitive deliveries, such as those mentioned below under special truck operations. Establish a surcharge for commercial vehicles operating during peak periods.
 - o Peak Period Pricing for Truck Operations. Establish a special surcharge and issue permits and/or medallions for the operation of commercial vehicles during periods of peak traffic congestion on congested portions of major arterials. Those operating without a permit would be fined or penalized.
 - o Special Truck Operations. Measures to restrict or regulate truck deliveries will require special measures for different types of trucking activity. Special truck operators, such as construction suppliers, concrete delivery, rock and gravel haulers, package delivery and air freight forwarders, dairies, and grocers, would develop voluntary plans to limit operations during peak periods. Consider a fine for noncompliance of the voluntary plan.

4. TRAFFIC FLOW IMPROVEMENTS

29. **Local government** should implement Automated Traffic Surveillance and Control (ATSAC) systems and similar interconnected signal control systems or appropriate non-interconnected synchronization methods on 2500 signalized intersections between 1989 and 1993, 5000 between 1989 and 2000, and to 8000 by 2010. Where high-technology signal interconnection is not feasible, improved fixed-time systems and timing should be provided. Emphasis on system management techniques under AB 471 Congestion Management Programs may accelerate implementation of signal synchronization projects within the South Coast Air Basin.
30. **Local government** should improve channelization at 125 intersections between 1989 and 1993, and to 500 intersections by 2010. As a part of SCAG's Overall Work Program, and inventory of intersection locations which would be candidates for improved channelization should be identified through the appropriate area study and jurisdictions encouraged to implement the improvements.

12.a. PAVED ROADS

31. **Local governments** would be required to develop a "clean streets" management program which includes enacting construction carryout and entrainment ordinances and vehicle entrainment ordinances, as well as allocating resources for controlling emissions from

unpaved areas adjacent to paved areas and storm water control by **December 31, 1992**. (**Local governments** may adopt Development Impact Fee Ordinances or create street maintenance districts (Assessment Districts) to fund this program.) Caltrans and the sanitation/flood control districts would be required to participate in the "clean streets" management program by allocating resources for controlling emissions from unpaved areas adjacent to paved areas and storm water control by December 31, 1992.

12.B. UNPAVED ROADS AND PARKING LOTS

32. **Local governments** adopt ordinances and allocate resources by **December 31, 1993**, to require paving or an alternative control of all vehicle maneuvering areas and parking facilities, according to ARB/Caltrans criteria.

17. GROWTH MANAGEMENT

33. **Local governments** amend general plans or air quality action plans/programs, adopt ordinances and develop interregional agreements by **December 31, 1994**, to attain growth management performance goals at the subregional level consistent with the Growth Management Plan.
34. **Local governments** adopt resolutions by **December 31, 1992**, containing action plans which:
 - a. Clarify the work local jurisdictions will commit to do in order to implement Measure 17.
 - b. Demonstrate the local jurisdiction's commitment to amending its general plan, developing an implementation plan, and/or adopting ordinances by December 31, 1994, to implement Measure 17.
35. **Local governments** submit regionally significant plans and project EIRs to SCAG for conformity review.
36. SCAG review of regionally significant plans and projects for conformity. When **local jurisdiction** adopts a conforming air quality element or equivalent general plans amendment, conformity reviews will become responsibility of jurisdiction.
37. **Local governments** develop interregional agreements to attain growth management performance goals consistent with the Growth Management Plan (see Table I-1). Sanitation districts advise local jurisdictions in implementation of the growth management policy.
38. Measure 17, Growth Management, to be a non-regulatory implementation measure until December 31, 1994. SCAG, with assistance of **local jurisdictions**, and subregional

entities reassess and reevaluate actions by **December 31, 1994**, and determine whether backstop measures are needed.

[Added from 1991 AQMP for SIP Amendment 3/25/91]

TABLE I-1

**SUB-REGIONAL VEHICLE MILES TRAVELED (VMT) REDUCTION
EQUIVALENT TO JOB/HOUSING BALANCE (1984-2010)**

SUBREGIONS IN SOUTH COAST AIR BASIN	VMT * REDUCTION S (000 MILES)	J/H BALANCE FOR GROWTH 1984-2010
SANTA CLARITA VALLEY	707	1.30
SAN FERNANDO VALLEY	1,767	1.21
SANTA MONICA MOUNTAINS	77	0.86
SANTA MONICA BAY	1,416	1.72
CENTRAL LOS ANGELES	2,715	1.65
GLENDALE/PASADENA	1,321	1.38
LONG BEACH/DOWNEY	1,250	1.45
EAST SAN GABRIEL VALLEY	1,655	1.25
WEST SAN BERNARDINO VALLEY	2,147	1.27
EAST SAN BERNARDINO VALLEY	1,469	0.76
ANGELES FOREST	18	NA
SAN BERNARDINO FOREST	1,360	0.17
NORTHWEST ORANGE	3,214	1.76
SOUTHEAST ORANGE	1,361	1.44

RIVERSIDE/CORONA	2,961	0.73
CENTRAL RIVERSIDE	1,868	0.83
TOTAL	25,306	NA

* These VMT reductions reflect only the result of Measure 17, Growth Management.

**F. COMMUNITY DESIGN
PHOTO ESSAY**

APPENDIX F

COMMUNITY DESIGN PHOTO ESSAY

The following pages include a photographic essay of the significant community design features in the study area. By providing key images in the community, the photographs are intended to give the reader a better understanding of the areas fundamental design components. The essay is divided into the following nine categories: Community Landmarks, Community Gateways and Corridors, Single Family Residential, Multi-family Residential, Commercial Development, Office/Business Park Development, Recreation and Open Space, and Views and Vistas.

Community Landmarks

Community Landmarks represent buildings or places which residents closely associate as part of the community fabric. They can also represent places of significant community interest, or locations which have prominent architecture. Overall, these components of the community's design are those that are most remembered by those who visit the study area.



Laguna Hills City Hall



Saddleback Memorial Medical Center



Laguna Hills Transportation Center



Taj Mahal Building

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Community Landmarks (continued)



Laguna Hills High School



Laguna Hills Post Office



Entrance to Laguna Hills Mall from El Toro Road



Moulton Niguel Water District

Community Landmarks (continued)



Leisure World Entrance from El Toro Road (Gate 1)



Leisure World Entrance from El Toro Road (Gate 2)

Community Gateways and Corridors

Community Gateways include points where visitors are most likely to receive their first impression of the study area. In the case of Laguna Hills, gateways generally occur at intersections along the limits of the study area. Corridors, on the other hand, give a more lasting impression of the study area. These components generally occur along the study area's roadways. Corridors represent the experience visitors receive as they travel through the study area.



El Toro Road and Avenida de la Carlota



Oso Parkway and La Paz Road



Oso Parkway and Cabot Road



Moulton Parkway and La Paz Road

Community Gateways and Corridors (continued)



**Alicia Parkway looking to Moulton Parkway
from Aliso Viejo**



Santa Vittoria Drive, by Veeh Ranch Park Bridge



Oso Parkway



Oso Parkway View into Nellie Gail Ranch

Community Gateways and Corridors (continued)



Lake Forest Drive in Annexation Area



Avenida de la Carlota in Annexation Area



Avenida de la Carlota in Annexation Area



View to the North of Laguna Hills from Cabot Road

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Views and Vistas

Views to and from the study area are important in the establishment of an aesthetic character of an area. This design component gives residents a physical sense of how the study area fits into the surrounding landscape.



View from Nellie Gail Ranch



**View from Residential Areas above
Moulton Niguel Water District**



Oso Parkway



View from Nellie Gail Ranch

Views and Vistas (continued)



**View from Cabot Road in Mission Viejo to Single
Family Residences in Laguna Hills**



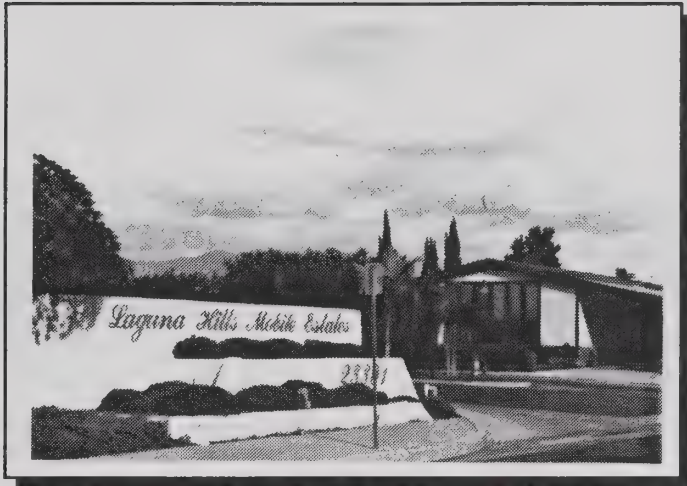
View into Nellie Gail Ranch

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Single Family Residential

Single Family houses represents the most prominent type of development in the study area. It is also the most personal of the community design components to study area residents, which is reflected in the wide variety of housing, styles, types, and densities.



Mobile Home Park in Annexation Area



Single Family Residences in the Central Study Area



Single Family Residences in Moulton Ranch
Planned Community



Single Family Residences in the Central Study Area

Single Family Residential (continued)



Nellie Gail Ranch in the Southern Study Area



Nellie Gail Ranch in the Southern Study Area



Single Family Residence in the Central Study Area



Single Family in the Central Study Area

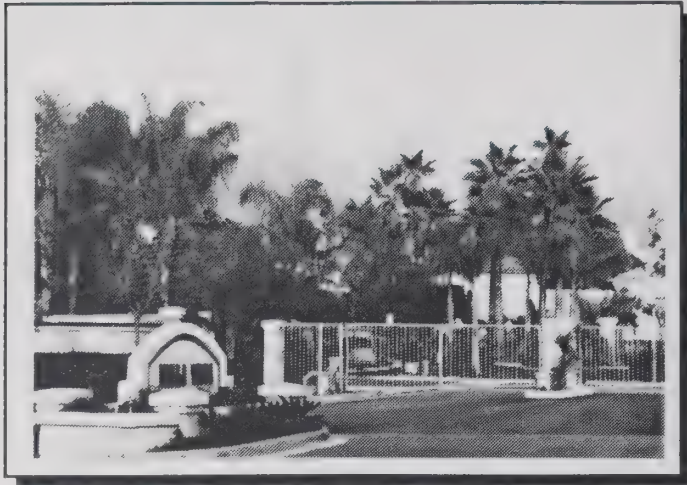
Single Family Residential (continued)



Single Family Residence in the Annexation Area

Multi-Family Residential

The Multi-family residential design component represents the a larger scale development which focuses on the establishment of a sense of place instead of a variety of architecture.



**Multi-Family Residential in the Moulton Ranch
Planned Community**



Multi-Family Residential in the Annexation Area



Multi-Family Residential in the Annexation Area

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Commercial Development

Commercial development provides examples of how economically vibrant the community appears. Often times visitors receive their first impressions of a community by visiting local and regional commercial areas.



Alpha Beta Center on Alicia Parkway



Sav-on Center at La Paz Road and Moulton Parkway



**David J. Phillips Buick, Pontiac and Mazda
on Alicia Parkway**



**Freeway Commercial on Avenida de la Carlota
in Annexation Area**

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Commercial Development (continued)



Courtyard by Marriott in Annexation Area



Comfort Inn in Annexation Area



Hyatt Lodge on El Toro Road



Holiday Inn on La Paz Road

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Office and Business Park Development

The Office and Business Park Development design component relates to how the community appears to function to those doing business in the study area. It is sometimes referred to as the community "corporate identity."



Freeway Office on Avenida de la Carlota



Office Development Around Laguna Hills Mall



Tarbell Realtors on La Paz Road



Offices across from Saddleback Memorial Medical Center

Office and Business Park Development (continued)



Offices on Cabot Road, South of La Paz Road



Laguna Hills Business Park in Annexation Area



Laguna Hills Business Park in Annexation Area

Recreation and Open Space

Recreation and open space can indicate how the residents of a community personally relate to the physical environment. Such areas indicate how residents have fun and what environmental aspects of the community are important.



Knotty Pine Park



Moulton Ranch Park (Private)



Laguna Village Park (Private)



San Remo Park in Annexation Area

Recreation and Open Space (continued)



Clarington Park



Veeh Ranch Park in Annexation Area



Nellie Gail Equestrian Center



Nellie Gail Ranch Tennis and Swim Club

Recreation and Open Space (continued)



Aliso Creek Trail near Clarington Park



Aliso Creek



Bike Trail Along Oso Parkway



Future Elementary School Site (Owned by SVUSD)

**G. OPEN SPACE
LANDS INVENTORY**

DRAFT MASTER EIR

APPENDIX G

OPEN SPACE LANDS INVENTORY

Tables G-1 and G-2 provide the location and description of each identified open space area. Each open space area is referenced by a site "number" (open space) or site "letter" (parks) which is keyed to the Parks/Open Space Map located in a map pocket at the end of the Master EIR. This inventory provides the acreage and general location of each open space area, as well as providing the following categories of its dedication status:

- ***Dedication Accepted:*** These are publicly owned or administered open space areas which the City of Laguna Hills is currently maintaining, or represent areas in the sphere of influence portion of the General Plan study area which are now maintained by the County of Orange.
- ***Offered For Dedication:*** These are areas which have been offered for dedication to the public as part of a subdivision or other development approval, but which have not been accepted by the City of Laguna Hills or the County of Orange. Generally, these areas have an expiration limit as to when they can be accepted by the governmental entity.
- ***Irrevocably Offer For Dedication:*** These open space areas have been irrevocably offered to the public as part of a subdivision but the offer has no expiration limit, or is irrevocable. Since the County of Orange has no formal mechanism to document the acceptance of all dedicated lands other than the acceptance of maintenance responsibilities, some of these areas may or may not have been accepted by the County prior to the City's incorporation.
- ***Private Open Space:*** These are significant open space areas that do not fit into any of the above categories, are privately owned, and were created as part of a subdivision or development permit activity, for the protection of natural open space, drainage purposes, slope maintenance, or other purpose.

Tables G-1 and G-2 also provide the current ownership and maintenance responsibilities of open space areas within the General Plan study area. These areas have also been divided into the following four categories:

- ***City:*** These are public open space areas that are owned and maintained by the City of Laguna Hills. All of these areas are within the incorporated portion of the General Plan study area.
- ***County:*** These are public open space areas that are owned and maintained by the County of Orange. All public open space areas in the annexation portion of the General Plan study area are maintained by the County.
- ***Homeowners Association:*** These are private open space areas which are owned and maintained by an individual homeowners association.
- ***Other:*** These are open space areas which do not fall into any of the above categories, or areas which are unclear as to ownership and maintenance.

CITY OF LAGUNA HILLS

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Table G-1
Parklands Inventory

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private Recreation	City	County	Homeowners Association	Other	Park Name
PARKS-ANNEXATION AREA											
A	16.0	■						■			Mar Veeh
B	5.0					■			■		Laguna Village
C	1.0	■						■			San Remo
D	4.0	■						■			San Vittoria
Sub-Total	26.0										
PARKS - INCORPORATED CITY											
E	3.49	■					■				Clarington
F	2.75	■					■				Beckenham
G	3.99	■					■				Stockport
H	3.67	■					■				Costeau
I	2.85	■					■				Mackenzie
J	3.85	■					■				Knotty Pine

March 31, 1994

CITY OF LAGUNA HILLS

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Table G-1
Parklands Inventory (Cont'd)

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private Recreation	City	County	Homeowners Association	Other	Park Name
Parks - Incorporated City (Cont'd)											
K	2.0	■					■				El Conejo
L	.75					■			■		Alisos Meadows
M	1.50	■					■				Future Park Site
N	3.93	■					■				Mendocino
O	3.34	■					■				Mandeville
P	8.70			■					■		Moulton Ranch
Q	2.37		■						■		Nellie Gail
R	8.77	■					■				Future Park Site
Sub-Total	51.96										
Total	77.96										

Source: Planning Network, 1993.

¹ Open Space/Scenic² Trail Easement³ Landscape⁴ Utility Easement

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table G-2
Open Space Inventory

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private	City	County	Homeowners Association	Other	Location
ANNEXATION AREA											
1	5.0					■ ³				■	South of Lake Forest Drive between Moulton Parkway and Avenue de la Carlota.
2	21.0	■ ¹						■			Between Lake Forest Drive and Ridge Route Drive, west of Moulton Parkway.
3	19.0					■ ¹				■	Northeast corner of Moulton Parkway and Ridge Route Drive.
Sub-Total	45.0										
CITY BOUNDARY											
4	3.0	■ ³					■				North side of Los Alisos Boulevard, between Paseo de Valencia and Avenue de la Carlota.
5	32.2	■ ¹						■			Aliso Creek, between I-5 and Paseo de Valencia.
6	4.0	■ ³					■				South of Aliso Creek on Avenue de la Carlota.
7	.5	■ ³					■				South side of Hendon Street, north of Alicia Parkway.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table G-2
Open Space Inventory (Cont'd)

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private	City	County	Homeowners Association	Other	Location
City Boundary (Cont'd)											
8	3.5	■ ³					■				East side of Paseo de Valencia, north of Alicia Parkway.
9	3.0	■ ³					■				Alicia Parkway, west of Paseo de Valencia.
10	1.2	■ ³					■				North side of Paseo de Valencia, between I-5 and Alicia Parkway.
11	1.2	■ ³					■				North side of Paseo de Valencia, between I-5 and Alicia Parkway.
12	3.0	■ ³					■				Avenue de la Carlota, north of La Paz Road.
13	1.4	■ ³					■				MacKenzie Street, north of La Paz Road.
14	.5	■ ³					■				North side of Pike Road, north of La Paz Road.
15	.25	■ ³					■				Pike Road and La Suen, north of La Paz Road.
16	4.8					■ ³				■	West of Cabot Road, between La Paz Road and Paseo de Valencia.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table G-2
Open Space Inventory (Cont'd)

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private	City	County	Homeowners Association	Other	Location
City Boundary (Cont'd)											
17	.5	■ ³					■				South side of La Paz Road, east of Paseo de Valencia.
18	4.3			■ ³					■		South of Paseo de Valencia and La Paz Road intersection.
19	74.5	■ ¹					■				Open space south of Paseo de Valencia, east of Alicia Parkway.
20	2.0	■ ³					■				South side of Paseo de Valencia, between Alicia Parkway and La Paz Road.
21	18.0	■ ¹								■	South of Laguna Hills High School, west of Alicia Parkway.
22	16.7					■ ¹			■		Northeast corner of Alicia Parkway and Moulton Parkway.
23	2.05			■ ¹					■		Recreational site on Linda Flora Street, east of La Serra Street.
24	1.9			■ ³					■		Northwest corner of Alicia Parkway and Moulton Parkway.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table G-2
Open Space Inventory (Cont'd)

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private	City	County	Homeowners Association	Other	Location
City Boundary (Cont'd)											
25	1.2			■ ¹					■		South side of Alicia Parkway, east of Moulton Parkway.
26	2.2			■ ¹					■		East side of Moulton Parkway, south of Alicia Parkway.
27	1.5		■ ²	■ ³						■	East side of Moulton Parkway, north of La Paz Road.
28	3.0			■ ³						■	West of Alameda Avenue, north of La Paz Road.
29	2.8	■ ¹								■	North of Mandeville Park.
30	3.0	■ ³					■				North side of Linda Flora Street, east of Alicia Parkway.
31	.8	■ ³					■				Aliso Hills Drive (north).
32	1.5	■ ³					■				Aliso Hills Drive (north).
33	3.91	■ ³					■				South side of Aliso Hills Drive.
34	3.5	■ ³					■				Alameda Avenue.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table G-2
Open Space Inventory (Cont'd)

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private	City	County	Homeowners Association	Other	Location
City Boundary (Cont'd)											
35	1.1	■ ³					■				South of Del Monte Street.
36	20.0	■ ³					■				North side of La Paz Road, between Alameda Avenue and Aliso Hills Drive.
37	8.0	■ ³					■				North side of La Paz Road, east of Moulton Parkway.
38	.25			■ ¹						■	Western city boundary at Alicia Parkway.
39	3.0		■ ²	■ ³					■		South of Moulton Parkway and Alicia Parkway intersection.
40	3.8	■ ³		■ ¹					■		Northwest corner of La Paz Road and Moulton Parkway.
41	23.5	■ ³		■ ¹			■				South side of La Paz Road, east of Appaloosa Place.
42	8.0	■ ³					■				South side of La Paz Road, east of Moulton Parkway.
43	9.5			■ ³					■		East side of Moulton Parkway, between La Paz Road and Oso Parkway.

March 31, 1994

CITY OF LAGUNA HILLS

DRAFT MASTER EIR

Table G-2
Open Space Inventory (Cont'd)

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private	City	County	Homeowners Association	Other	Location
City Boundary (Cont'd)											
44	5.5	■ ³					■				North side of Oso Parkway, east of Moulton Parkway.
45	10.0	■ ³					■				North side of Oso Parkway, between Nellie Gail Road and Bridlewood Drive.
46	7.0	■ ³					■				North side of Oso Parkway, between Bridlewood Drive and Hitching Rail Road.
47	8.0	■ ³					■				West side of Cabot Road, north of Oso Parkway.
48	7.0			■ ¹						■	East side of Cabot Road, north of Oso Parkway.
49	39.4					■ ¹			■		Moulton Ranch.
50	10.2	■ ³					■				South side of Oso Parkway.
51	12.0	■ ³					■				South side of Oso Parkway.
52	7.44		■ ¹							■	Southwest corner of Moulton Parkway and Oso Parkway.

March 31, 1994

CITY OF LAGUNA HILLS

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Table G-2
Open Space Inventory (Cont'd)

		Dedication Status					Current Ownership/Maintenance				
Site #	Acreage	Dedication Accepted	Offered for Dedication	Irrevocably Offered for Dedication	Dedicated for Easement	Private	City	County	Homeowners Association	Other	Location
City Boundary 'd)											
53	2.19		■ ¹							■	South of Nellie Gail Road and Moulton Park Ranch.
54	24.1					■ ¹			■		Moulton Ranch, south of Vista Viejo Road.
55	38.3			■ ¹						■	West Cabot Road, south of Rapid Falls Drive.
56	1.07	■ ³					■				Moulton Parkway and La Paz Road, between La Paz Road and Oso Parkway.
57	21.0					■ ⁴				■	SCE Easement.
58	20.0					■ ¹				■	(20 acre school site) Nellie Gail Ranch, between Red Corral Drive and Mustang Drive.
Sub-Total	492.26										
Total	537.26										

Source: Planning Network, 1993.

¹ Open Space/Scenic

² Trail Easement

³ Landscape

⁴ Utility Easement

March 31, 1994

DRAFT MASTER EIR

Analysis of the City's current inventory of open space lands indicates several parcels of land which have possible park development potential. Although these sites show some development potential, each has constraints which may limit their use. Sites which may have potential for park development have been outlined below. In addition, the opportunities and constraints of each site are provided.

Site 19

This site consists of a 74.5 acre site located along Alicia Parkway, south of Paseo De Valencia. The City currently maintains 35 acres of this open space.

Opportunities: This site has a high potential for development either as a public park, or some other type of active recreationally oriented land use. This site is currently the largest open space area maintained by the City of Laguna Hills. As indicated in the Biological Resources section of the Master EIR, this area has limited significance as a biologically sensitive area. Due to its ownership, location, and access to the roadway, this site offers an opportunity for development as an active community recreational facility.

Constraints: Significant grading and special design criteria would be needed to develop this hillside location.

Site 21

This site is located along the west side of Alicia Parkway, just south of Laguna Hills High School.

Opportunities: This area may have the potential to be developed as a greenbelt or natural habitat area, or possibly a community recreational facility. Its location adjacent to the Laguna Hills High School suggests opportunities for joint use facilities.

Constraints: This area has a limited potential as active park land due to drainage and environmental constraints. The site represents the remainder of a large drainage area which historically drained the central portion of the General Plan study area. Construction of a community facility would require the modification of an existing stream course, and significant amounts of grading.

Site 22

This site is located along the west side of Alicia Parkway, north of Moulton Parkway.

Opportunities: This area may have the potential as a public greenbelt area or natural habitat area. Opportunities for recreation include bike, equestrian and walking paths.

Constraints: This site has a limited potential as active park land due to drainage and environmental constraints. The site currently functions as a drainage swale taking run-off from the north. Water from the existing stream courses supports plant habitat which could support various animal and plant species. Development of active parkland would involve substantial and or alterations to the existing stream course.

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Site 55

This site is a 38.3 acre parcel located west of Cabot Road at the southern General Plan study area boundary.

Opportunity: This site was irrevocably offered for dedication to the County, and may now provide the City with the opportunity to expand the current undeveloped park site (site "R") which adjoins the site's northern boundary. Due to the steep topography, opportunities are limited to trails, picnic areas, natural habitat areas, and vista points.

Constraints: The site has extreme topography made up of mainly of hillsides and canyons. Although the site will have access to Cabot Road, only a limited amount of land could be made available without substantial alteration to the existing slopes.

Site 58

This 20-acre site is located in the Nellie Gail Ranch development, between Mustang Drive and Red Corral Road and is owned by the Saddleback Valley Unified School District (SVUSD). The district currently has plans to develop 10-acres of the site into a elementary school. According to the District, the remaining 10 acre parcel will be sold at a later date.

Opportunities: Although the School District has plans to develop this parcel as an elementary school site, plans have not been finalized. The City may have the opportunity to buy all or a portion of the site for recreation purposes, or establish joint use facilities. Of all the vacant parcels in the General Plan study area, this site has the most potential to be developed for active recreation such as multi-use ballfields.

Constraints: Although there are few physical constraints to development on this site, surrounding resident's and the School District have differing views as to its development. Since this parcel is located in the middle of a residential neighborhood, residents have voiced a preference that it be reserved for the development of houses similar to those in the neighborhood or kept in a natural condition. The School District has tentative plans for the construction of an elementary school for a 10 acre portion of the site, and has not committed to plans for the remaining 10 acres.

Site P

This site is located in the Moulton Ranch Planned Community and was irrevocably offered to the County as part of development, although not accepted by the County, prior to the incorporation of the City.

Opportunity: The City of Laguna Hills currently has an opportunity to accept the dedication of this park and add it to the City's public park system. The park has been developed for recreation purposes including landscaping and play facilities.

Constraints: Since the park has never been maintained by the County, local residents have grown a custom to the park being private. Due to this fact, local residents may be opposed to the City taking ownership and maintenance responsibility of the park site.

DRAFT MASTER EIR

Open Space Management Techniques

Since incorporation, the City has the responsibility for maintaining all public parks, open space, slope and trail areas within the incorporated General Plan study area. Many of these open space areas were originally dedicated to the County of Orange as part of development, at which time assessment districts were formed to offset the cost of maintenance. The City is currently maintaining these lands through the City's General Fund. The following techniques are currently being employed by various southern California municipalities to maintain and manage park and open space lands. These techniques establish a baseline of opportunities from which the City may consider a preferred open space management policy.

Special Districts

Landscape Maintenance District

The purpose of a landscape maintenance district is to pay for the maintenance and improvement of landscaping such as street medians, landscape paseos, neighborhood entries and street medians benefiting a community of homeowners.

The cost of maintenance is allocated among homes within the area of benefit and is added to the annual tax bill of each homeowner within the District boundary. Typically the City Council will review the budget for the District and set the assessment for each year.

Assessment District

The purpose of an Assessment District is to pay for the construction and maintenance of major infrastructure such as streets, sewers, storm drain facilities, landscaping, parks and utilities benefiting a community of homeowners.

The cost of maintenance is allocated among homes within the area of benefit and is added to the annual tax bill of each homeowner within the District boundaries.

Advantages: The historic use of maintenance/assessment districts is well established and generally understood by the voting public.

Projects are paid for by those who directly benefit.

The geographic area to be served by the facility or program is clearly defined.

Immediate financial burdens on the property owner or developer may be reduced.

Cost allocations generally are apportioned on criteria other than property valuation, thereby increasing public receptivity.

Disadvantages: Residents often view maintenance/assessment districts as attempts to impose "hidden taxes".

The requirement of a two-third vote tends to discourage their use in already developed areas.

DRAFT MASTER EIR

District formation can be time consuming and costly.

Once established, the boundaries of an maintenance/assessment district are not easily changed, except for Mello-Roos districts.

Expanding or modifying the facilities in response to future needs generally requires financing from some alternative mechanism.

Successful marketing of bonds or other financial instruments often hinges on factors beyond local control.

Homeowners Association

The purpose of a Homeowners Association is to pay for the maintenance of facilities common to all homeowners who live within a common development. These facilities may include building and pool maintenance; landscaping of hillside, slopes and parks; as well as parking lot, lighting and entry signage maintenance.

Typically, all homeowners become automatic members, and elect a governing board to manage common community facilities. The facilities are then maintained through fees collected from each homeowner, usually on a monthly basis.

Advantages: The homeowners association is responsible for the maintenance of facilities, and therefore, no public money is expended.

Facilities are maintained and paid for by those who directly benefit.

Disadvantages: The facilities benefit only the association members and their families.

The City may have little control over the ongoing quality of maintenance.

The City does not have an opportunity to expand the use of open space for trails and active parks, or other public uses.

Place Public Lands Into Private Ownership

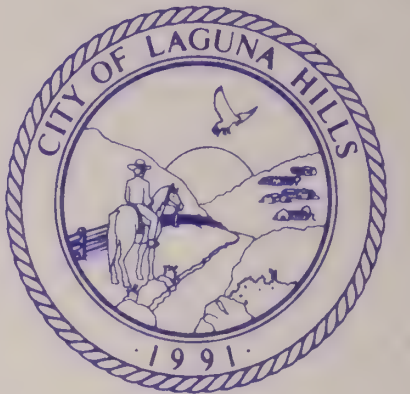
The City may also deed public open space lands to homeowners associations, or to other private interests in exchange for the maintenance of these lands. These lands could then be used for other purposes, as approved by the City.

Advantages: Relieves the City of the maintenance responsibility and associated costs.

Disadvantages: Decreases the amount of public open space lands controlled and managed by the City.

Reduces the opportunity for public access to such lands.

Could allow for an increase in development of some land originally reserved for open space.



LEGEND:

LAND USE:		CITY LIMITS:	SPHERE OF INFLUENCE:
SF	SINGLE FAMILY	2,295.87 AC.	127.00 AC.
MF	MULTI-FAMILY	134.53 AC.	174.9 AC.
CO	COMMERCIAL	220.80 AC.	129.0 AC.
O	OFFICE	27.50 AC.	68.8 AC.
I/BP	INDUSTRIAL/ BUSINESS PARK	00.0 AC.	154.30 AC.
PF	PUBLIC FACILITIES	20.6 AC.	00.0 AC.
REC	RECREATION	51.96 AC.	26.00 AC.
CR	COMMERCIAL RECREATION	11.6 AC.	00.0 AC.
	HIGH SCHOOL	51.8 AC.	00.0 AC.
	ELEMENTARY SCHOOL	39.8 AC.	10.0 AC.
OS	OPEN SPACE	470.24 AC. 3,324.7 AC.	65.00 AC. 755.0 AC.

- EXISTING CITY LIMITS
- SPHERE OF INFLUENCE

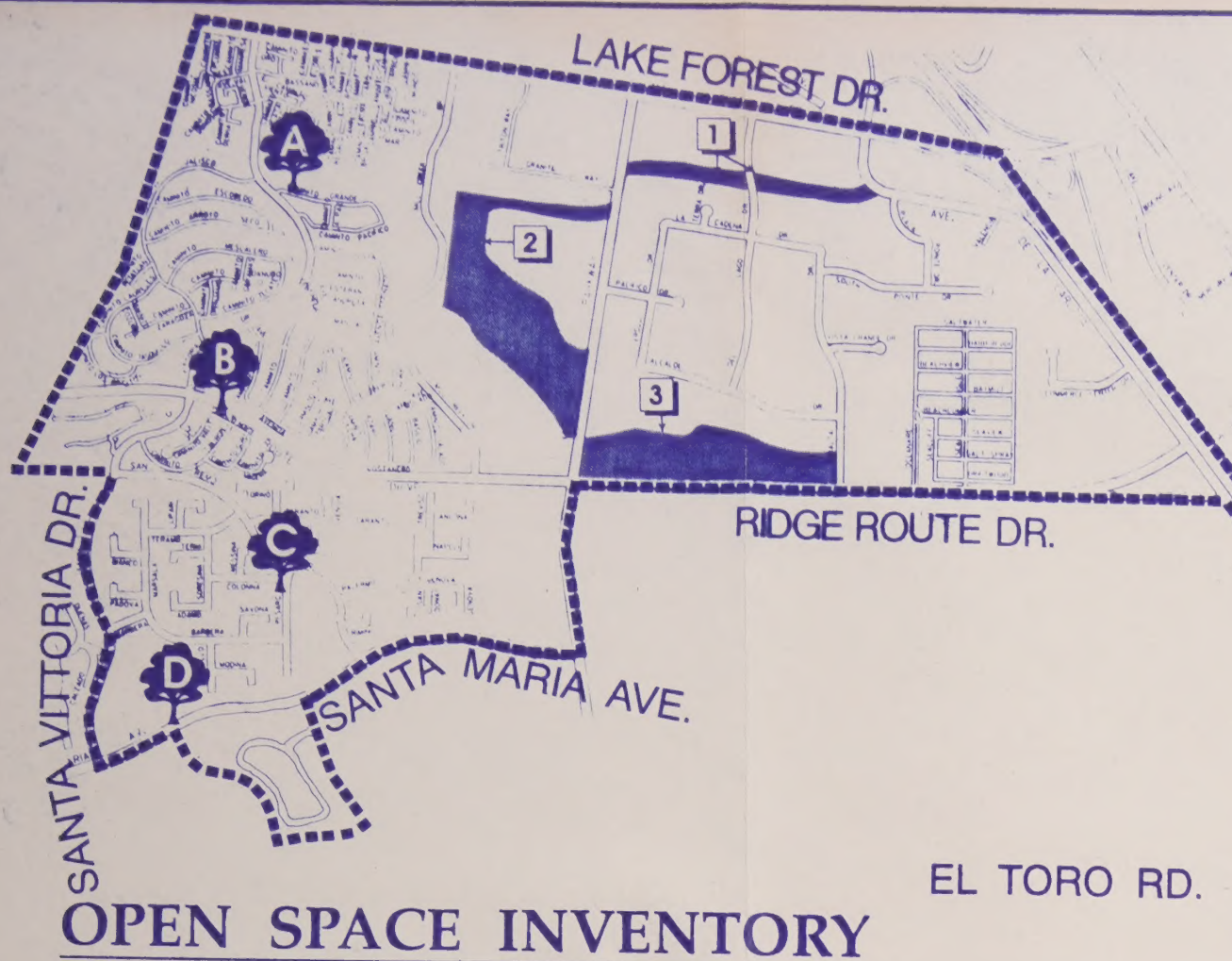
CITY OF LAGUNA HILLS EXISTING LAND USE MAP

PLANNING NETWORK

JANUARY 1993
0' 300' 600' 1,200'
NORTH

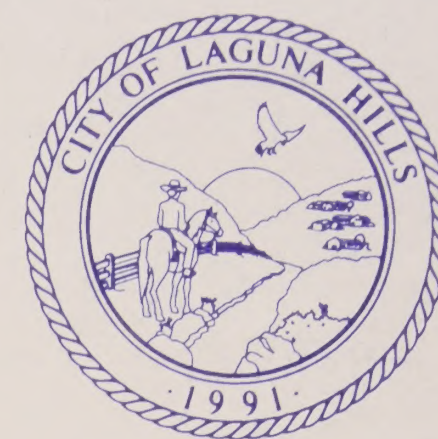


DATE	REVISION	BY
01/93	1	JLP
01/93	2	JLP
01/93	3	JLP
01/93	4	JLP
01/93	5	JLP
01/93	6	JLP
01/93	7	JLP
01/93	8	JLP
01/93	9	JLP
01/93	10	JLP

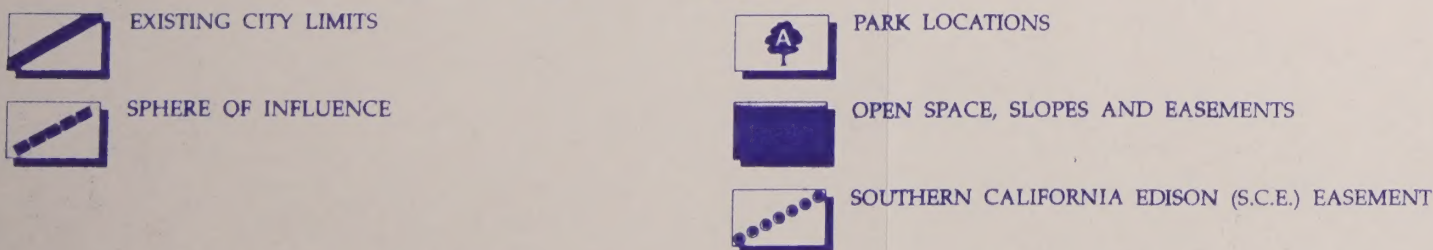


PARK INVENTORY

		Dedication Values					Current Ownership/Maintenance				
Size #	Average	Dedication Accepted	Offered for Dedication	Accepted's Offered for Dedication	Dedicated for Reserve	Private Acquisition	City	County	Homeowners Association	Other	Port Name
PUBLIC-ANNELEX AREA											
A	10.0	x						x			Mar Vista
B	1.0					x			x		Lagoon Village
C	1.0	x						x			Sun Pines
D	8.0	x						x			Sun Victoria
Sub Total:		2x 2x									
TABLE 7 - INCORPORATED CITY											
E	3.49	x					x				Cherignon
F	2.75	x						x			Bedlamton
G	3.99	x									Redlighter
H	1.67	x						x			Cottone
I	2.83	x									Melkstone
J	7.83	x						x			Kewy Pine
K	2.0	x						x			Rd Compo
L	.75					x			x		
M	1.50	x						x			Alize Meadows
N	3.97						x				Petate Park Site
O	7.34	x									Meadowme
P	6.70			x					x		Meadowville
Q	7.37			x						x	Meadow Ranch
R	6.77	x									Native Club
Sub Total:		51.86									Petate Park Site
Total		77.36									



		Dedication Status					Current Ownership/Maintenance					
Site #	Acreage	Dedication Accepted	Offered for Dedication	Conditionally Offered for Dedication	Undedicated for Easement	Private	City	County	Homeowners Association	Other	Location	
ADDITIONAL SITES												
1	3.0										South of Lake Pymat Drive between Mission Parkway and Avenue de la Carle	
2	21.0										Between Lake Pymat Drive and Ridge Route Drive, west of Mission Parkway	
3	19.0										Northeast corner of Mission Parkway and Ridge Route Drive	
Sub-Total	45.0											
CITY'S BOUNDARY												
4	3.0											
5	32.2										North side of Lake Alamos Boulevard, between Pointe de Valencio and Avenue de la Carle	
6	4.0										Alamo Creek, between I-5 and Pointe de Valencio	
7	5										South side of Hamilton Road, north of Alamo Parkway	
8	3.3										East side of Pointe de Valencio, north of Alamo Parkway	
9	2.0										Alamo Parkway, west of Pointe de Valencio	
10	1.2										North side of Pointe de Valencio, between I-5 and Alamo Parkway	
11	1.2										North side of Pointe de Valencio, between I-5 and Alamo Parkway	
12	3.0										Avenue de la Carle, north of La Paz Road	
13	1.4										Mission Road, north of La Paz Road	
14	3										North side of Pita Road, north of La Paz Road	
15	23										Pita Road and La Brea, north of La Paz Road	
16	4.8										West of Cabot Road, between La Paz Road and Pointe de Valencio	
17	5										North side of La Paz Road, west of Pointe de Valencio	
18	4.3										South of Pointe de Valencio and La Paz Road intersection	
19	74.1										Open space south of Pointe de Valencio, west of Alamo Parkway	
20	2.0										North side of Pointe de Valencio, between Alamo Parkway and La Paz Road	
21	19.0										South of Laguna Mills High School, west of Alamo Parkway	
22	16.7										Northeast corner of Alamo Parkway and Mission Parkway	
23	2.01										Recreational area on Linda Place Street, west of La Sierra Street	
24	1.9										Northeast corner of Alamo Parkway and Mission Parkway	
25	1.2										South side of Alamo Parkway, west of Mission Parkway	
26	2.2										East side of Mission Parkway, south of Alamo Parkway	
27	1.5										East side of Mission Parkway, north of La Paz Road	
28	3.8										West of Alameda Avenue, north of La Paz Road	
29	2.8										North of Moorville Park	
30	3.0										North side of Linda Place Street, west of Alamo Parkway	
31	8										Alamo Mills Drive (north)	
32	1.5										Alamo Mills Drive (south)	
33	3.91										South side of Alamo Mills Drive	
34	2.5										Alameda Avenue	
35	1.1										South of Del Monte Street	
36	20.0										North side of La Paz Road, between Alameda Avenue and Alamo Mills Drive	
37	8.0										North side of La Paz Road, west of Mission Parkway	
38	25										Washburn city boundary in Alamo Parkway	
39	3.0										South of Mission Parkway and Alamo Parkway intersection	
40	3.8										Northeast corner of La Paz Road and Mission Parkway	
41	21.3										South side of La Paz Road, west of Aguilera Place	
42	8.0										South side of La Paz Road, west of Mission Parkway	
43	9.1										East side of Mission Parkway, between La Paz Road and One Parkway	
44	5.5										North side of One Parkway, west of Mission Parkway	
45	10.0										North side of One Parkway, between Pacific Golf Road and Bridlewood Drive	
46	7.0										North side of One Parkway, between Bridlewood Drive and Hitching Post Road	
47	8.0										West side of Cabot Road, north of One Parkway	
48	7.0										East side of Cabot Road, north of One Parkway	
49	39.4										Mission Ranch	
50	19.2										South side of One Parkway	
51	12.0										South side of One Parkway	
52	7.44										Southeast corner of Mission Parkway and One Parkway	
53	2.19										South of Pacific Golf Road and Mission Park Ranch	
54	24.1										Mission Ranch, south of Vista Verde Road	
55	38.3										West Cabot Road, south of Rapid Falls Drive	
56	1.07										Mission Parkway and La Paz Road, between La Paz Road and One Parkway	
57	21.0										SCE Exclusion	
58	30.0										(20 acres adjacent other Indian Chief Ranch, between Red Creek Drive and Meeting Drive)	
Sub-Total	492.36											
Total	537.36											

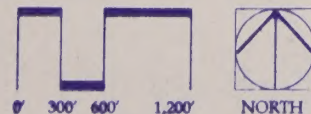


CITY OF LAGUNA HILLS

OPEN SPACE LANDS INVENTORY

PLANNING NETWORK

JANUARY 1993



DATE:	REVISION:	IN:
10/10/00	BASE MAP	A
10/10/00	FIRST DRAFT OF FISH INVENTORY MAP	A

DRAFT MASTER EIR

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U.C. BERKELEY LIBRARIES



C098090251

ACCOPRESS®

25970	YELLOW
25971	BLACK
25972	LIGHT BLUE
25973	DARK BLUE
25974	LIGHT GRAY
25975	LIGHT GREEN
25976	DARK GREEN
25977	TANGERINE
25978	RED
25979	EXECUTIVE RED

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